# ABSTRACT

| | |
|---|---|
| Title of Thesis: | DEATH IN THE ROUND: A CRITIQUE OF FUNERAL ARCHITECTURE AND BURIAL PRACTICES |
| | James Nicholas Jesmer, Master of Architecture 2019 |
| Thesis Directed By: | Lecturer, Lindsey May, School of Architecture, Planning, and Preservation |


ABSTRACT:

Traditional Cemeteries are known for their groomed, grass lawns with headstones denoting rows of graves. These environments often use vast swaths of land and serve as biological monocultures with one purpose—to hold people who have passed. Spaces like these are only activated when a burial takes place or when friends and family visit the deceased. Because of this, cemeteries are often placed at the edges of society and all but forgotten during everyday life. This distance augments society's negative association with death. A cemetery complex will be the focus of this thesis. Combining multiple programmatic elements, the complex will promote sustainable interment practices, serving as a model for future cemetery sites. The grounds will offer a variety of landscape typologies that accommodate the needs of natural burial, while providing programming for a waterfront park throughout the year. The location for this thesis will be on the urban edge of Part Covington in Baltimore, remediating a brownfield site and giving it back to the community, instilling values of environmental stewardship.

# DEATH IN THE ROUND:
# A CRITIQUE OF FUNERAL ARCHITECTURE AND BURIAL PRACTICES

by

James Nicholas Jesmer

Thesis submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Master of Architecture
2019

Advisory Committee:
Lecturer Lindsey May, Chair
Professor Emeritus Karl F.G. Du Puy
Professor Matthew Bell
Professor Carl Bovill

# Preface

This thesis exploration stemmed from several influences. First, a study abroad in Summer 2018 to several Scandinavian countries influenced a better appreciation for death architecture, a typology that had gone unnoticed in my previous education. In these countries, specifically Sweden and Finland, cemeteries and cemetery chapels are designed to honor the deceased, while comforting those who grieve.

After returning from this trip abroad and witnessing the care that goes into designing funeral spaces, I could not help but wonder why this same level of design thinking is not widespread in the United States. This suspicion was confirmed when I attended funerals for my remaining two grandparents in the months after returning to the States. The buildings for the funeral proceedings were not designed for dead, but rather the living. They were either retrofitted to become spaces for the dead or they accommodated these ceremonies. Also, the lack of design for funeral ceremonies caused the ceremony to be disjointed, moving from the church, to the cemetery, to a reception afterward. I was left wondering, why it had to be this way and how different cultures had arrived at different approaches to interring those who have passed.

These questions led to an investigation of burial practices and the funeral industry in the U.S. It is at this point that I discovered the harm that traditional burial imposes on the environment and how green or natural burial could be incorporated to change the funeral industry for the better. In this way we can be more mindful of environmental stewardship in an aspect of our life that is often forgotten.

# Acknowledgements

I would like to thank my Chair, Lindsey May, and Thesis Coordinator, Karl Du Puy, for guiding me through this process, getting into the discussion of death architecture as much as I have, and for the laughs along the way. I also need to thank my family and friends for keeping me sane during this process.

# Table of Contents

This Table of Contents is automatically generated by MS Word, linked to the Heading formats used within the Chapter text.

# List of Figures

32. Jesmer, James N. *Visitor Movement Through Spaces*, May 24, 2019.

33. *Surroca, Jordi. "Chapel. Funeral Home at Sant Joan Despi's Cemetery." Digital image. Metalocus. October 31, 2013. Accessed May 24, 2019.*

34. *https://www.metalocus.es/en/news/funeral-home-sant-joan-despis-cemetery-batlle-i-roig-arquitectes.*

35. Jesmer, James N. *Movement of mourners through a procession.* May 24, 2019.

36. Kahn, Lewis. *Waiting space before entry into worship hall. Digital image.* Arch Daily. September 4, 2018. Accessed May 24, 2019. *https://www.archdaily.com/901249/bushey-cemetery-waugh-thistleton-architects.*

37. *Ceridwen. "Golders Green Crematorium."* Digital image. Wikimedia Commons. January 27, 2008. Accessed May 24, 2019. CC BY-SA 2.0 https://commons.wikimedia.org/wiki/File:Golders_Green_Crematorium_-_geograph.org.uk_-_676569.jpg.

38. Jesmer, James N. *Skogskyrkogarden Crematorium in context of forest.* June 2018.

39. Jesmer, James N. *Furnace hall of Skogskyrkogarden Crematorium.* June 2018.

40. Jesmer, James N. *Brick Clad Porch from waiting room of crematorium.* June 2018.

41. Jesmer, James N. *Movement Diagram of the Deceased through the Crematorium,* May 24, 2019.

42. *"Seisegem Crematorium Facade with Earthen Mounds."* Digital image. KAAN Architecten. Accessed May 24, 2019. *http://kaanarchitecten.com/project/crematorium-siesegem/.*

43. *"Chimney of crematorium projecting through roof."* Digital image. KAAN Architecten. Accessed May 24, 2019. *http://kaanarchitecten.com/project/crematorium-siesegem/.*

44. *"Daylight shines on marble walls and floor."* Digital image. KAAN Architecten. Accessed May 24, 2019. *http://kaanarchitecten.com/project/crematorium-siesegem/.*

45. Jesmer, James N. *Sizing relationship of major programmatic elements,* May 24, 2019.

46. Česonis, G. *Exterior corner of crematorium at dusk*. Digital image. Dezeen. March 21, 2012. Accessed May 24, 2019. https://www.dezeen.com/2012/03/21/crematorium-in-kedainiai-by-architektu-biuras/.

47. Česonis, G. *Interior of lobby facing urn display and ceremony room*. Dezeen. March 21, 2012. Accessed May 24, 2019. https://www.dezeen.com/2012/03/21/crematorium-in-kedainiai-by-architektu-biuras/.

48. Berkowitz, David. Green-Wood Cemetery Gates. Digital image. Wikimedia Commons. April 30, 2011. Accessed May 24, 2019. CC BY 2.0 https://commons.wikimedia.org/wiki/File:Green-Wood_Cemetery,_Brooklyn-8.jpg.

49. TCY. Green-Wood Cemetery, Brooklyn, NYC. Digital image. Wikimedia Commons. November 2008. Accessed May 24, 2019. CC BY-SA 3.0 https://commons.wikimedia.org/wiki/File:Green-Wood_Cemetery_Graves2.jpg.

50. Jesmer, James N. *National Congressional Chapel Promenade.* April 2019.

51. Jesmer, James N. *Dog Playing in Natural Sprint at Cemetery.* April 2019.

52. Jesmer, James N. *Natural Burial Headstone at National Congressional.* April 2019.

53. Jesmer, James N. *Apiaries Above Mausoleum.* April 2019.

54. Jesmer, James N. *Diagram comparing program uses of precedents.* May 24, 2019.

55. Jesmer, James N. *Proposed Graphic Program.* May 24, 2019.

56. Jesmer, James N. *Diagram of Major Program Adjacencies.* May 24, 2019.

57. Jesmer, James N. *Program Configuration 1: Separated.* May 24, 2019.

58. Jesmer, James N. *Program Configuration 2: Court.* May 24, 2019.

59. Jesmer, James N. *Program Configuration 3: Compact.* May 24, 2019.

60. Jesmer, James N. *Stacking Diagram for Proposed Program.* May 24, 2019.

61. Jesmer, James N. *Abstracted Movement Diagram: Plan and Section.* May 24, 2019.

# Part 1

## *Chapter 1: Site Selection Considerations*

Introduction

Since the design and function of a cemetery is intrinsically linked to the ground it is embedded in, site selection is key to the success of this thesis. It has previously been determined that in order to create the greatest benefit from this development exploration, the remediation of a brownfield site will be required. Typically, siting a cemetery is met with pushback from the community as residents and business owners anticipate a decrease in property value. Research conducted by Realtor.com has shown that "the median price of ZIP codes with a cemetery is

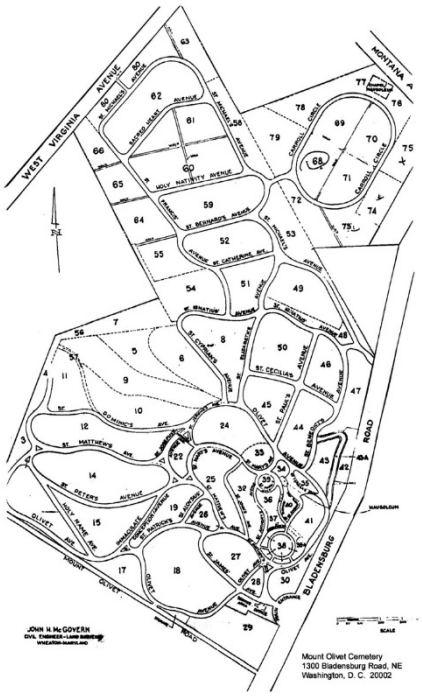


*Figure 1: This map of Mount Olivet Cemetery organizes burials based on section numbers. Each section is then separated into individual plot maps at a smaller scale. (Source: McGovern, John H. Mt. Olivet Cemetery Plan. PDF. Washington, D.C.)*

about 12% lower than neighboring areas."[1] This exploration views a brownfield site as a worse condition that will be improved by the reintroduction of trees and vegetation, as well as the public amenity of a park. Tangible factors like that of sizing, soil conditions, and the movement of water are all important. Other considerations are influences such as the potential for wayfinding and desirable view corridors. Aspects of the site context, like public transportation, vehicular access, pedestrian access, immediacy to residences that will use the cemetery recreationally, and its proximity to other comparable green space are also imperative in making this decision.

Sizing

When considering the size of this cemetery, there are several aspects to be considered: the amount of intended burial plots, the size and number of funeral chapels, the space required for recreation programming, and the size of available sites. During an interview with Cheryl Tyiska, manager of Mt. Olivet Cemetery in Washington, D.C. it was revealed that a new cemetery should be 200-250 acres in size in order to accommodate current population density, though many existing cemeteries are considerably smaller.[2] Since the program of a cemetery is able to be scaled, a small cemetery—50 acres—would not present a problem; however, a 300-


*Figure 2: Potential sites for location of thesis project vary in size and topographic opportunities. (Source: Google Maps. "Satellite Images of Chicago, IL; Hillcrest Heights, MD; and Laval, Quebec." Accessed March 29, 2019.)*

[1] Yuqing Pan, "The Neighborhood Features That Drag Down Your Home Value—Ranked," Realtor.com, March 28, 2016, accessed March 21, 2019, https://www.realtor.com/news/trends/things-that-affect-your-property-value/.
[2] Tyiska, Cheryl. "Mt. Olivet Cemetery." Interview by author. March 12, 2019.

acre site, like that of Skogskyrkogården in Stockholm, would provide a great deal of opportunity for designing both funeral chapels and landscape. As this thesis explores the design of an urban cemetery, a site of that magnitude is less-readily available. Early potential sites included: Hillcrest Heights, MD; Laval, Quebec, Canada; and Chicago, IL. In terms of size, they are 57 acres, 170 acres, and 150 acres respectively. They are all previously developed sites; however, the Chicago and Quebec sites have been more heavily impacted.

After further investigation, a fourth site was discovered with potential to accommodate the program of this thesis: Port Covington in Baltimore, Maryland. The city of Baltimore, known for its history as a port and a beacon of industry, is now facing the environmental contamination from its past. In fact, the city has over 263 hazardous waste sites listed on the Maryland Department of the Environment webpage dedicated to its Land Restoration Program (LRP), 157 sites more than any county in the state.[3] With this in mind, it is rational to address brownfield remediation at one of its densest concentrations. The first major use of the land that became Port Covington was as a fort during the War of 1812 in order to support Fort McHenry. [4] During its industrial prime, the site served as a railyard for incoming shipments and several factories. [5] In recent years, this property south of Baltimore's Inner Harbor has remained populated with waterfront industries.

[3] "Land Restoration Program Fact Sheets." Maryland Department of the Environment. Accessed May 23, 2019. https://mde.maryland.gov/programs/LAND/MarylandBrownfieldVCP/Pages/errp_factsheets.aspx#top.
[4] MDHSLIBRARYDEPT. "Port Covington: Baltimore's Junction with the World." Underbelly. June 30, 2016. Accessed May 23, 2019. http://www.mdhs.org/underbelly/2016/06/30/port-covington-baltimores-junction-with-the-world/.
[5] MacFarlane, Key. "Time, Waste, and the City: The Rise of the Environmental Industry." *Antipode* 51, no. 1 (2019): 225–247.

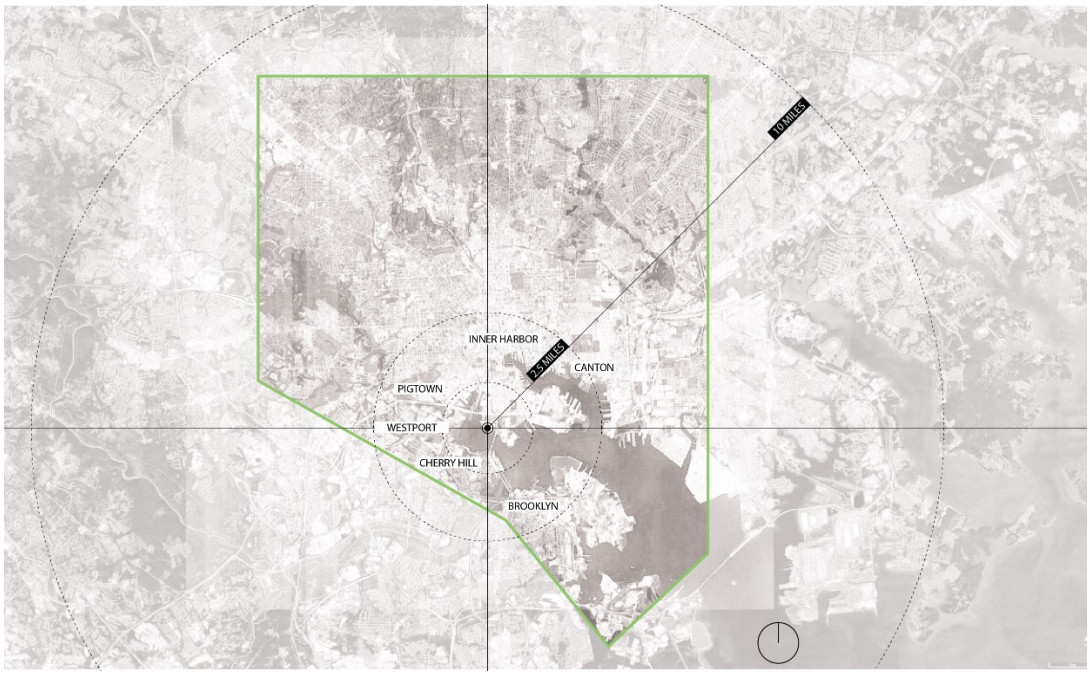


*Figure 3: The area of Port Covington in the context of Baltimore's city limits. (Source: Google Maps and Author. "Satellite Image and Diagram Overlay of Baltimore at City Scale." Accessed May 24, 2019.)*

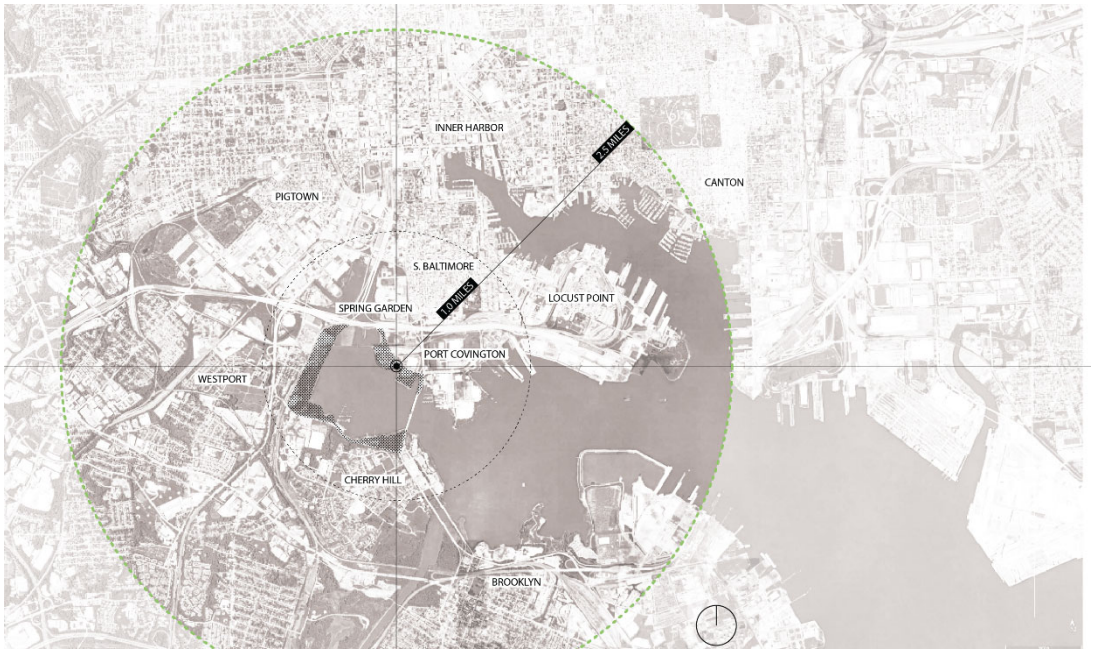


*Figure 4: Port Covington in relation to downtown Baltimore and the Inner Harbor. (Source: Google Maps and Author. "Satellite Image and Diagram Overlay of Baltimore at Downtown Scale." Accessed May 24, 2019.)*

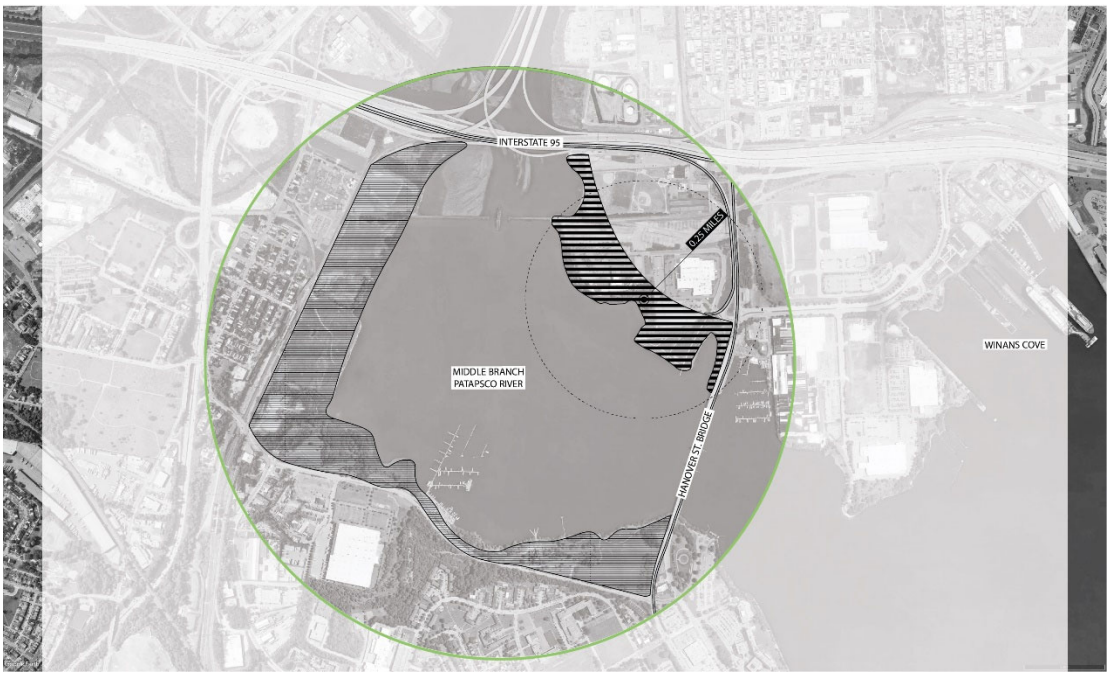


*Figure 5: Site surrounding Middle Branch of the Patapsco River (Source: Google Maps and Author. "Satellite Image and Diagram Overlay of Middle Branch of the Patapsco River in Baltimore." Accessed May 24, 2019.*

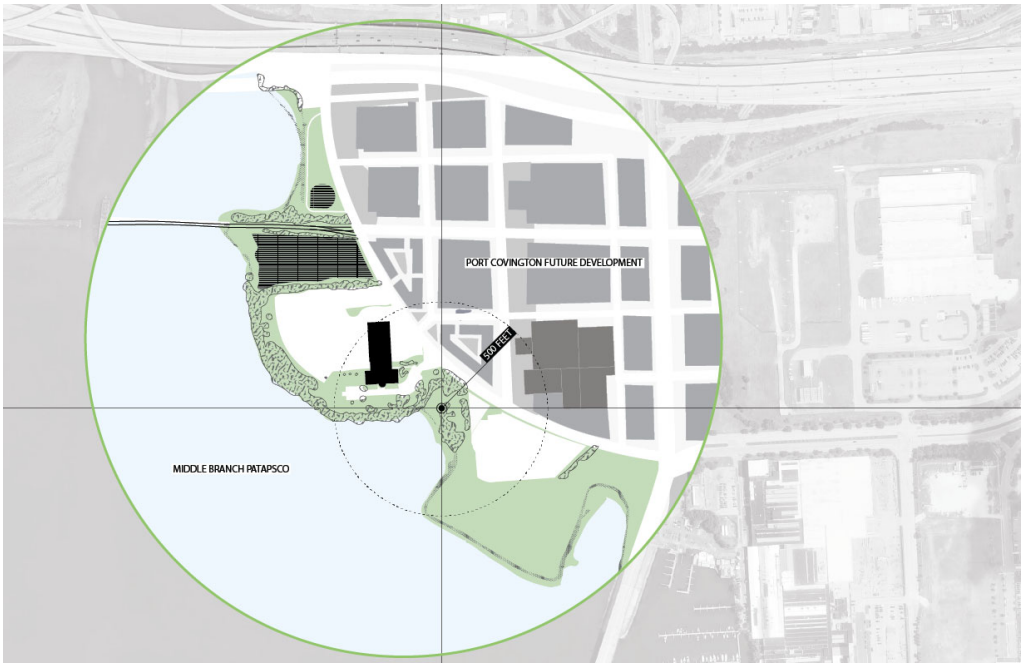


*Figure 6: Zooming in closer still, a 5-minute walking radius can be determined from the center of the site. (Source: ArcGIS and Author. "Port Covington Waterfront Site." Accessed May 24, 2019.)*

Plot plans for green burial graves are not as dense as traditional cemeteries. This is done so that more space is made available for decay agents, thereby lessening the competition. According to the Green Burial Council, no more than 300 graves per acre is recommended.[6] Though that is considerably less dense than traditional cemeteries, the nature of this type of burial allows for spaces to be used for future burials when needed. "The expectation is that with more efficient use of space, the land will remain intact with less disturbance, keeping nature in balance."[7] Maintaining this density and taking into consideration sizes for potential sites, up to 51,000 people could be buried (assuming the Laval, Quebec site) if every part of the site was dedicated to burial. The Planning Commissioners Journal reminds those planning cemeteries to forecast the capacity of future cemeteries, accounting for unusable acreage due to unfavorable topography and buildings on site is necessary. From there, estimating burials per year, will offer the life expectancy of the cemetery's burial period. [8]

[6] "Green Burial Defined," GREEN BURIAL COUNCIL, accessed March 20, 2019, https://www.greenburialcouncil.org/green_burial_defined.html.
[7] Webster, Lee et al., *The Science Behind Green and Conventional Burial*. PDF. (Green Building Council, 2016), 6.
[8] Valerie Capels and Wayne Senville, "Planning for Cemeteries," *Planning Commissioners Journal*, no. 64 (October 15, 2006): accessed March 26, 2019, http://plannersweb.com/2006/10/planning-for-cemeteries/.

Soil

As this cemetery will employ natural burial practices, in which those interred will decompose quickly without preservation, the soil condition of potential sites is of the utmost importance. Bodies are not the only matter that the soil will need to break down and filter. The list "include[s] biodegradable materials in green cemeteries as well as heavy metals and wood finishes that may leach from coffins and urns, and chemicals and byproducts from concrete vaults in conventional cemeteries."[9]

*Figure 7: Several layers of soil horizons work to filter water as it returns to aquifers. (Source: Denbow. "Soil as a Water Filter." Digital image. DENBOW Innovating Naturally. November 14, 2017. Accessed March 29, 2019. https://www.denbow.com/soilstormwater-management-tool/soil-as-a-water-filter/.)*

A guide from the Green Burial Council suggests sandy, loamy soils with good drainage are better than more impervious soils, such as clay, and are therefore better for effective decomposition and cemetery health. Shallow burial, 3.5-4 feet, is an aerobic process, so soil that allows penetration of air is beneficial to quick decomposition. Much of the decomposition is

[9] Lee Webster, *The Science Behind*, 7.

provided by microorganisms that thrive in warmer summer temperatures.[9] A consultation of soil overlay maps will direct site selection for soil conditions.

Misconceptions of Water Pollution

A concern with natural cemeteries is the potential for decomposing bodies to pollute groundwater. Though water and soil samples of areas near cemeteries have tested positive for contaminants in a few cases, they are likely not the product of decomposition. It is more probable that these contamination problems are caused by "leachate from the casket, vault, or embalming fluid."[10] In fact, areas near green cemeteries in the United States, Canada, Great Britain, and Australia have never had contamination reported.[11] Additionally, it is a misconception that the decomposition of bodies poses a threat to public health by the transfer of diseases. Most pathogens die with their host, since they can no longer be sustained.[12] If anyone is at risk, it is likely those handling the body because they are in such close contact when a pathogen could still be active.

As conditions change in each region, individual states tend to provide water setbacks for home burial that can be a useful parameter when planning a green cemetery.[13] Since there is a lack of data, it is recommended that individuals regard required distances from water sources and follow seasonal high water tables. It is important to note that "aquifers are often located several hundreds of feet below ground. Ground water would have to filter through at least 80 to 100 types of soil to reach an aquifer, naturally making it potable."[14]

[10] Lee Webster, *The Science Behind*, 8.
[11] Ibid.
[12] Oliver Morgan, "Infectious Disease Risks from Dead Bodies Following Natural Disasters," *Revista Panamericana De Salud Pública* 15, no. 5 (May 2004): accessed March 29, 2019, doi:10.1590/s1020-49892004000500004.
[13] Lee Webster, *The Science Behind*, 8.
[14] Ibid.

Wayfinding

As much as gates and signs may help visitors navigate such a large site, features of the landscape could prove to be beneficial wayfinding elements as well. Existing landmarks like waterbodies, hills, depressions in the landscape, and boulders can provide anchor points that orient visitors.[15] A site with several existing features can begin implying boundaries and edges without constructing human-made barriers. Another benefit of existing features unique to each site are opportunities for desirable views. Mount Olivet and Glenwood Cemeteries in Washington, D.C. both have clear views of city landmarks from distinct locations throughout. From the highest point at Mt. Olivet, one may experience views of the Capitol Building's rotunda and the Washington Monument. At Glenwood, from the center of the Masonic Circle the Washington Monument is in view.

[15] Michael Marquard, "The Real Impact of Wayfinding," The LA Group, September 30, 2016, accessed March 29, 2019, https://www.thelagroup.com/real-impact-wayfinding/.

*Figure 8: Desirable views can be a benefit of topographic changes on site; such as this one from the high point of Mount Olivet Cemetery in Washington, D.C. that features the rotunda of the U.S. Capitol building in the distance. (Source: Author)*

*Figure 9: A view of the Washington Monument from the center of Glenwood Cemetery's Masonic Circle orients visitors in the context of the city. (Source: Author)*

The site's landscape can also affect how it welcomes visitors. A particularly sloped site may only be accessed from one point of entry, whereas relatively flat sites may offer more convenient places to go in. Glenwood Cemetery experiences a drop off on the east side, rising above the street it abuts, while to the west it slopes down to the adjacent residences. It is likely

then that people entering the site from the east would experience the wall of the drop-off much of their way to the gate, experiencing a view of the whole cemetery on the at the entrance. Those approaching from the west may collect an understanding of the cemetery during their walk, maybe even taking time to understand its organization before arriving at the gate. Stockholm's Skogskyrkogården has a similar approach to that of Glenwood's east side in that it withholds the view from the street; however, this is taken a step further by opening up the views after one has walked into the site.

**Access**

To encourage people to visit the site, whether for a funeral or recreation, ease of access is important. As it is, people do not visit cemeteries often. Public parks are unlikely to receive visitors if there are few reasons to go. A reason to go to a park would be that it is nearby or at


*Figure 10: Significant changes in topography hold back views during the approach to Glenwood Cemetery from the east on Lincoln Rd. (Source: Google Maps. "Street view on Lincoln Rd NE adjacent to Glenwood Cemetery in Washington, D.C." Accessed March 29, 2019.)*

least easy to get to. [16] Siting the cemetery, along with its recreational uses, adjacent to residences provides the amenity of public green space within walking distance, ensuring a base population of users. Residents may find that burying their loved one close to home is important to them, rather than at a cemetery far out of town. If the cemetery is meant to be approached by pedestrians, finding a site surrounded by good infrastructure, such as adequate sidewalks, crosswalks, and signals, will make walking there more appealing. The same may be said for public transportation. Areas in cities bordered by several bus routes or a short walk from light rail train stations encourage visitation. Finally, if the cemetery and park are well sited, people may still need to drive there, especially if the activities provided increase the public's desire to go. Making sure the streets surrounding the site have good connectivity, placing the project near existing public parking, and creating parking on site would accommodate these individuals.

*Figure 11: A view of the entrance to Skogskyrkogården, a cemetery in Stockholm, from the street shows a road flanked by two stone walls that draws visitors in. (Source: Google Maps. "Street view at the entry to Skogskyrkogården in Stockholm, Sweden" Accessed March 29, 2019.)*

[16] Fred Kent, "Creating Great Urban Parks," Project for Public Spaces, December 31, 2008, accessed March 29, 2019, https://www.pps.org/article/creating-great-urban-parks.

Proximity to Public Green Space

Placing the cemetery away from other sources of public green space would prevent it from competing with or detracting visitors from those facilities. Since the project is intended to reclaim a brownfield, it should be adding urban green space where there is currently none. "Access to vegetated areas such as parks, open spaces, and playgrounds has been associated with better perceived general health, reduced stress levels, [and] reduced depression…"[17] Therefore, the introduction of this cemetery and park has the potential to produce these effects.

Why an Urban Cemetery

Since cemeteries are typically placed at the edges of towns, one may ask "why put a cemetery in the city?" The creation of cemeteries rose from the overcrowding of urban church graveyards in eighteenth century Europe and nineteenth century America. In places like Paris, too many bodies were stacked over the years, raising the elevation of the yard. Also, additions to the church during this period: side chapels, larger presbyteries, and catechism halls cut into the available space of graveyards. Clergymen and physicians banded together to move the dead out of town.[18] Only the members of the parishes were against this move, arguably to keep their love one's remains nearby. In subsequent years, the bodies were removed to cemeteries at the edge of the city. As a result of this movement "the modern cemetery was no longer an urban space."[19]

Even small village churches that had no lack of space were forced to remove their churchyards. These may have even been enjoyable countryside locations, had walls and gates not been constructed. This movement not only resulted in the rural cemetery, but also the cemetery

[17] "Urban Planning and the Importance of Green Space in Cities…," Healthy Parks Healthy People Central, accessed March 29, 2019, http://www.hphpcentral.com/article/urban-planning-and-the-importance-of-green-space-in-cities-to-human-and-environmental-health.
[18] Michel Ragon and Alan Sheridan, *The Space of Death: A Study of Funerary Architecture, Decoration, and Urbanism* (Charlottesville: University Press of Virginia, 1983), 201.
[19] Ibid, 202.

as a specialized space. It created a "dead space intended for death."[20] Cemeteries were no longer the facet of the community they had been previously. With that in mind, the urbanization of a new cemetery with sustainable burial practices offers the opportunity to create a positive relationship with death by reintroducing it to the community. This will also raise awareness about plight current burial practices, while promoting the benefits of sustainable ones.

*Figure 10: The densely populated Algarve Cemetery in Portugal shows that overcrowding cemetery space is a problem that continues today. (Source: Richman, Peter. Overcrowded Algarve Cemetery in Portugal. Digital image. Talk Death. July 18, 2018. Accessed March 29, 2019.https://www.talkdeath.com/cemetery-overcrowding-leading-europe-recycleburial-plots/.)*

[20] Michel Ragon, *The Space of Death*, 202.

## *Chapter 2: Natural Burial*


*Figure 13: Traditional Cemetery in Montreal, Canada exhibits a vast expanse of headstones. (Source: Real, Joy. Cemetery in Montreal, Canada. Digital image. Unsplash. February 8, 2018. Accessed March 29, 2019. https://unsplash.com/photos/Ct7SDwhQ3nc.)*

Introduction

Burial of the dead has been practiced globally by human cultures for thousands of years.[21] Though these practices have varied widely from place to place, one aspect that remains constant is a reverence for those who have passed and the exercise of rituals to honor them. "In Judaism, for example, bodies are not embalmed and coffins are constructed of wood without any metal so the body easily returns to the earth. Muslims also practice natural burial. In that tradition, the body is covered in a simple shroud and buried facing Mecca."[22] Until the mid-19th century in the United States, if a person passed, their body lay in state in the family's home so that individuals could pay their respects.[23] It was during the Civil War that current funeral

[21] Michel Ragon and Alan Sheridan, *The Space of Death: A Study of Funerary Architecture, Decoration, and Urbanism* (Charlottesville: University Press of Virginia, 1983), 26.
[22] "History and Facts," Final Footprint, accessed March 20, 2019, https://finalfootprint.com/history-facts/.
[23] Michel Ragon, *The Space of Death*, 141.

practices were adopted.[24] Soldiers' bodies were transported home via train far from the battlefields. So they could make the journey home, bodies were preserved with formaldehyde to delay decomposition; giving birth to modern mortuary traditions.[22] The practice of natural burial seeks to change methods of interment once more.

*Figure 14: A woven, wicket casket is one option of interment vessel for natural burial. (Source: Natural Endings. "Eco_Coffin." Digital image. Flickr. June 7, 2005. Accessed March 29, 2019. https://flic.kr/p/56TU5c.)*

Defining Natural Burial

According to the Green Burial Council, a third-party rating system for natural burial grounds, natural burial is "a way of caring for the dead with minimal environmental impact that aids in the conservation of natural resources, reduction of carbon emissions, protection of worker health, and the restoration and/or preservation of habitat."[25] To achieve this, bio-degradable, non-toxic materials are used for the creation of interment vessels such as wicker or wood caskets,

[24] Joe Sehee, "Burials and Cemeteries Go Green," interview by Cheryl Corley, All Things Considered, transcript, National Public Radio, December 16, 2017.
[25] "Green Burial Defined," GREEN BURIAL COUNCIL, accessed March 20, 2019, https://www.greenburialcouncil.org/green_burial_defined.html.

cloth shrouds, and urns. Additionally, no embalming fluids are used. To use as few resources as possible, natural burial forgoes the use of concrete vaults or liners, which, though not required by law, are normally installed to prevent graves from caving in.[26] With these stipulations, one may assume green burial is actually a return to pre-Civil War burial practices, though they have continued as standard in Europe for millennia. Natural burial, as it is known in the United States today, was introduced by Dr. William and Kimberley Campbell in 1998. Their "Ramsey Creek Preserve [in] Westminster, South Carolina is the first conservation burial ground in the United States, and arguably, the world."[27]

Cemetery Conditions

The state of the cemetery is typically that of "…un-landscaped, woodland and meadow areas where bodies are buried among vegetation."[28] Ideally, natural cemeteries are not mowed or explicitly maintained. This prevents the release of carbon dioxide from the mower into the atmosphere and the flow of fertilizer into surrounding waterways. Cemeteries without lawnmowers are also contributing to the biodiversity of the ecosystem within their bounds. Some

[26] "Green Burial Defined"
[27] "Memorial Ecosystems-Bios," Memorial Ecosystems - Leaders in Conservation Burial, accessed March 28, 2019, http://www.memorialecosystems.com/AboutUs/Bios/tabid/109/Default.aspx.
[28] "History and Facts."

grooming can be achieved using livestock that may graze on the vegetation, managing its growth.

*Figure 15: Natural burial cemeteries tend to be in a forested or unmaintained meadow setting. (Source: Bailey, Tom. "In the Woods at Burr Cemetery." Digital image. Green Burial Naturally. July 30, 2018. Accessed March 29, 2019.https://www.greenburialnaturally.org/blog/2018/7/26/in-the-maine-woods.)*

Headstones are not used to mark graves in natural cemeteries for the purposes of maintenance. Additionally, due to its elevated embodied energy, concrete is banned from use in grave markers as well. Flat, engraved stones or GIS data typically denote the location of remains. If these methods are not employed, native plants may be used as a marker. There are also natural burial cemeteries that use no physical markers, but the names of those buried there are displayed or cataloged elsewhere on the grounds.[29]

[29] "Green Burial Defined"

Grave Stipulations

The graves in natural burial cemeteries have distinct characteristics as well. Despite traditional grave depths at 5-6 feet, burial in green cemeteries is set at about 3.5-4 feet from the bottom of the grave to the top of the soil. The greater depth is required for traditional burials because they need to accommodate bulkier caskets within cement vaults, though.[30] The shallower depth still prevents the potential for any animal disturbance and foul smells. When the soil from the hole is added to the grave, it mounds, increasing the depth until the soil settles, adding an adding an additional buffer between the deceased and the surface.[31] Depending on the ecological values of the

*Figure 16: A shallow grave prepared for a funeral with a mound of displaced soil are adorned with vegetation for ornamentation. (Source: "Larkspur Conservation at Taylor Hollow, Nashville, TN." Digital image. Green Burial Council. Accessed March 29, 2019. https://www.greenburialcouncil.org/gallery.html.)*

[30] Webster, Lee et al., *On the Way to the Green Burial Cemetery: A Guide for Families*. PDF. (Green Building Council, 2015), 3.
[31] Webster, *On the Way*, 2.

cemetery, grave preparation may be achieved through the use of a backhoe or by hand with shovels.[32] As part of a burial, family members may contribute in lowering the body and refilling the grave. Rocks and stones discovered during the digging process should be reintegrated into the grave while refilling. This is beneficial for moisture retention and soil permeability, which bolsters insect activity that spreads seeds.[33]

Despite the time and money put into burial, all cemeteries have families who request the disinterment of remains. This is typically to move the remains to another site, a family plot in another cemetery for example; however, sometimes remains are exhumed for forensic analysis in a criminal investigation. Since bodies begin to decompose immediately following burial in a green cemetery due to a lack of embalming fluids, disinterment requests can be challenging for to perform months or years after the initial burial. Families are typically required to "sign a contract stating that their family member will not be disinterred unless legally ordered to do so by the State…"[34] Also in these contracts, families agree to pay the costs of exhuming that are not covered by the State if ordered. If a body must be disinterred, proper records of grave location and perimeter indication are vital to an efficient process. The shallow burial depth of green cemeteries and an understanding of the soil layers may also prove to be beneficial.[35]

[32] Webster, Lee et al., *Opening, Closing, and Maintenance of a Green Burial Grave*. PDF. (Green Building Council, 2015), 1.
[33] Ibid, 4.
[34] "Green Burial Defined"
[35] Ibid.

The Exclusion of Embalmed Remains

Embalming, popular in the United States and Canada, is used to get the body through funeral proceedings, while providing a more life-like quality during a viewing. Some carriers for long-distance travel of remains, require that they be embalmed. The same may be said for bodies that are donated.[36] In natural burial, embalming in most forms is not allowed. It is not a belief that the body

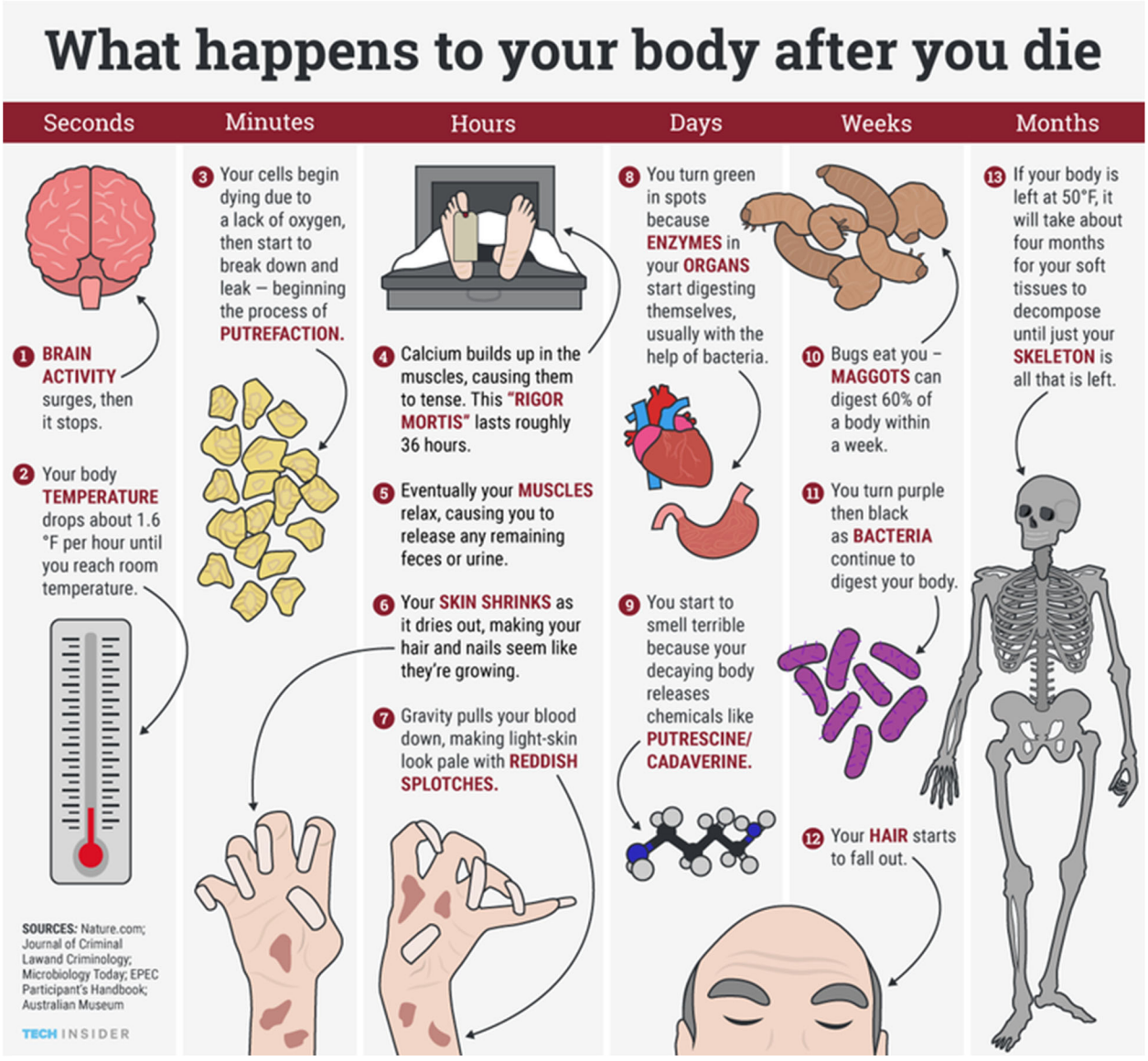


*Figure 17: Though embalming seeks to preserve the life-like quality of a deceased person, decomposition ensues. (Source: Gould, Skye. Infographic describing decomposition. Digital image. Business Insider. October 15, 2015. Accessed March 29, 2019.https://www.businessinsider.com/how-human-bodies-decay-2015-10.)*

[36] Webster, Lee et al., *The Science Behind Green and Conventional Burial*. PDF. (Green Building Council, 2016), 4-5.

should be prevented from decay, but rather a concern for the chemicals typically used in the process.[37]

A common misconception is that embalming is required by law in jurisdictions across the country to protect public health. According to the Federal Trade Commission's Funeral Rule, "no state law requires embalming for every death."[38] A body may need to be embalmed if not buried within a period of time set by some states; however, refrigeration is a widely accepted alternative.[39] Even the medical community views embalming as a cosmetic, not a preventative measure for public health. Various methods of keeping the body cooled will effectively reduce the rate of decomposition until a burial takes place.

The issue most important to supporters of green burial, regarding embalming, is the potential health risks from exposure to these chemicals. The elevated risk is experienced by embalmers and funeral directors who inhale fumes from embalming fluid that contain "formaldehyde, benzene, ethanol, ethylene glycol, and other toxic chemicals."[40] Both groups are eight times more likely to contract leukemia and are a three times greater risk of contracting auto-immune and neurological diseases compared to the rest of the population.

Beyond health risks, embalming fluid presents negative environmental impacts, where 4.3 million gallons are used in the U.S. annually. Nonrenewable resources that contribute to the manufacture, shipping, and disposal of the fluid make it difficult to determine the exact impression it leaves.[41] If embalming is determined to be necessary for the funeral proceedings,

[37] "Green Burial Defined"
[38] Federal Trade Commission. "The FTC Funeral Rule." Consumer Information. https://www.consumer.ftc.gov/articles/0300-ftc-funeral-rule (accessed March 28, 2019).
[39] Ibid.
[40] Webster, *The Science Behind*, 5.
[41] Webster, *The Science Behind*, 5-6.

formaldehyde-free embalming fluids have recently been introduced; one of which uses nontoxic and biodegradable essential oils.

# Part 2: Precedents: Studies in the Architecture of Death

## *Introduction*

In developing the functionality and form of a cemetery complex, it is appropriate to investigate buildings that have come before. Though the inquiry for this chapter did not result in the discovery of an existing precedent designed to embody the overarching themes of this thesis: architecture of death, natural burial, and recreation, a study of individual elements shall inform the greater whole. Through the exploration of these elements, and the effects they have on their respective parts of the grieving process, we are able to glean integral design strategies for a new complex. The subsequent sections of this chapter will interpret the design of cemetery chapels, with a specific investigation into a Finnish vernacular; crematoriums of the 21st century; and cemeteries that provide more for their community than a place for burial.

## *Chapter 3: Funeral Halls*

Introduction

Depending on the country, religion or culture of an individual, they may experience a final viewing from family members at a cemetery chapel. These buildings maintain a unique stance, because unlike most sacred spaces, they are designed for one use—to receive the dead. If one does not have a funeral in a church, and they do not go directly from hospital to grave, funeral chapels are the last architecture that bodies interact with before being interred. Though, not designed for the experience of the body, the chapels are designed for the religious right of the deceased and the spectacle of those in attendance. The body or casket in these spaces, compared to traditional spaces of worship, is the main event. The functionality of the space is designed for pomp and circumstance, and efficiency for those operating the chapel.

What does it mean to create a monofunctional space, such as this? One may wonder if a profound reverence for those who have passed drives the need, or if it is easier to have a ceremony close to the interment site. The important takeaway is that these spaces should be designed to help families grieve and placate them as they say goodbye to their loved ones. An analysis of the following chapels shall further inform this meaning.

Chapels of Skogskyrkogarden: Stockholm, Sweden

Skogskyrkogarden or Cemetery of the Woods, in Stockholm, Sweden, contains a multitude of funeral chapels. Created by Gunnar Asplund and Sigurd Lewerentz between 1917 and 1920, this cemetery contains five distinct chapels, three of which share the same building as a historic crematorium.[42]


*Figure 18: Satellite Image of Skogskyrkogarden with Labeled Chapels (Source: Google Maps and Author. "Satellite Image and Diagram Overlay of Chapels in Skogskyrkogarden" Accessed May 24, 2019.)*

[42] "Skogskyrkogården." UNESCO World Heritage Centre. Accessed May 24, 2019. https://whc.unesco.org/en/list/558.

*Figure 19: Entrance of Woodland Chapel (Source: Author)*

Woodland Chapel

The original chapel, the Woodland Chapel, by Asplund, was completed in 1920, is set in the cemetery's pine tree forest. Said to be inspired by a cottage in Liselund, Denmark, the chapel displays influences of Swedish Romanticism.[43] A steeply-pitched roof dominates the façade, resting on rows of columns; this forms a portico leading to the chapel's entrance. When the doors open, the interior is revealed to be a square room capped with a light-filled dome. The chapel with contained within one room, though a couple closed spaces are dedicated for the officiant

[43] McQuaid, Matilda. "Woodland Chapel, Woodland Cemetery, Stockholm, Sweden, Side Elevation. C. 1918-20." The Museum of Modern Art. Accessed May 24, 2019. https://www.moma.org/collection/works/318.

and storage. The space under the dome serves as the dedicated area for funeral services. The altar resides beyond the dome, leaving rows of chairs surrounding the casket, which becomes the focal point of the room. An arrangement like this allows for the ceremonial aspects to be less important and more focus to be on the individual.

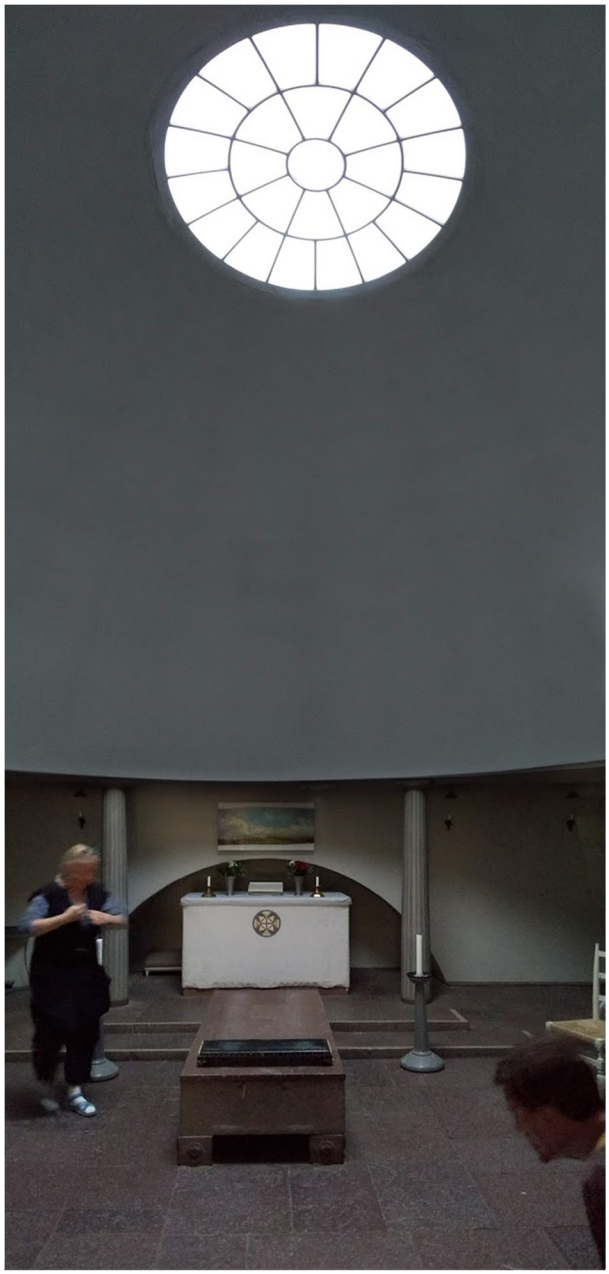

*Figure 20: The interior of the chapel shows the proportional relationship of the dome to the space below. (Source: Author)*

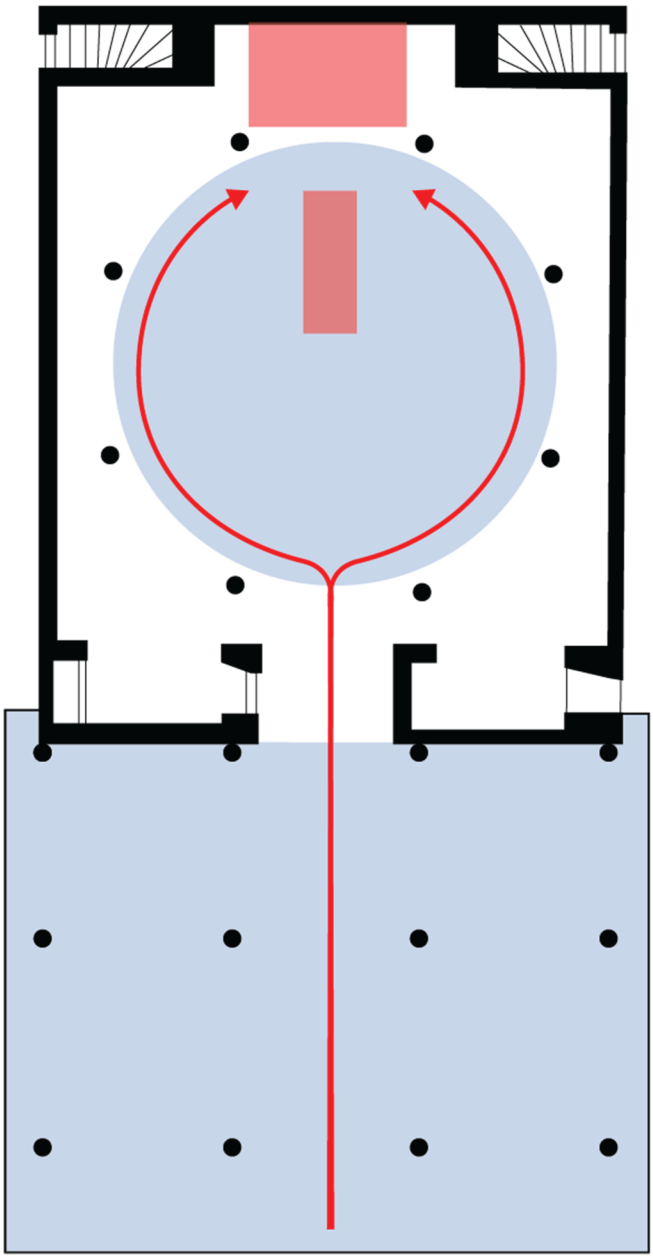

*Figure 21: Woodland Chapel Sequence of Spaces Plan Diagram (Source: Author)*

*Figure 22: Temple front entrance to the Resurrection Chapel (Source: Author)*

Resurrection Chapel

Resembling a neoclassicist style temple, the second chapel to be built at the cemetery is the Resurrection Chapel by Lewerentz in 1925.[44] This chapel sits on a greater axis with the cemetery, Seven Springs Way, leading several hundred meters to the entrance. Here, a portico on columns is also used to demarcate the entrance. Lewerentz originally envisioned the chapel with a north-west axis, but the plans were rejected in favor of a more traditional east-west orientation.[45] Mourners enter the chapel from the north and are immediately reoriented to the altar to the east. There is a singular window on the south wall, near the altar. The entirety of the glazing is above eye-level, signifying "the importance of the chapel as a link with heaven."[46] Beyond this window,

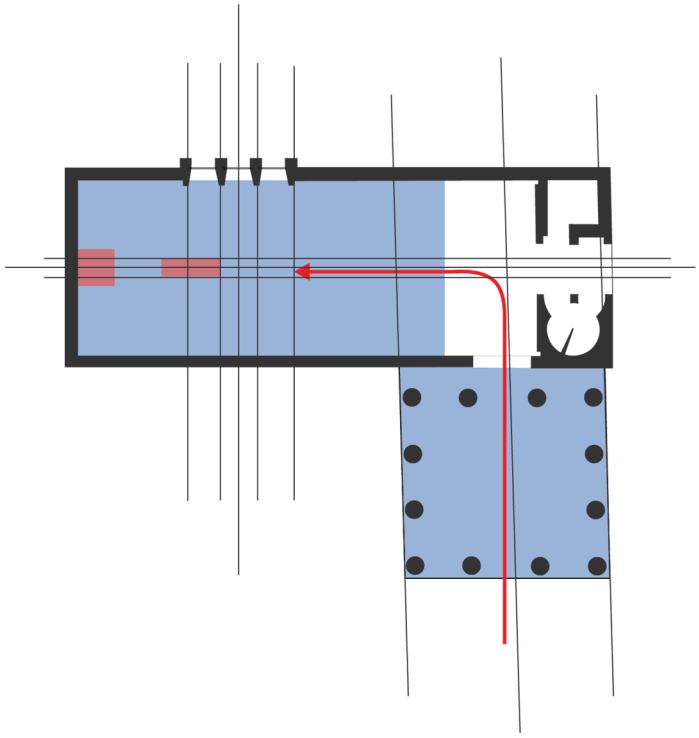

*Figure 23 Visitors of the Resurrection Chapel are reoriented from south to east as they enter the ceremony hall. (Source: Author)*

[44] "Chapel of Resurrection." Stockholmstad. June 02, 2015. Accessed May 24, 2019. https://skogskyrkogarden.stockholm.se/in-english/architecture/buildings/chapel-of-resurrection/.
[45] Ibid.
[46] Ibid.

the walls are bare. The ornamentation of the space is present in the altar and the mosaic pattern in the floor. Through different techniques, the Resurrection Chapel achieves the same goal as the Woodland Chapel by having the building support the display of the deceased rather than displaying itself. A cemetery chapel like that would compete too much with the event for the users' attention, which would be insensitive of the architect to say the least.

*Figure 24: The temple front entrance to the Resurrection Chapel caps the axis of Seven Springs Way (Source: Author)*

*Figure 25: A window on the south wall provides the only source of natural light. (Source: Author)*

*Figure 26: View of Chapels and Crematorium from Hill (Source: Author)*

Crematorium Chapels: Faith, Hope, and the Holy Cross

The following three chapels were built as part of a crematorium added to the cemetery in 1940. Asplund garnered the commission for the project, though it was supposed to go to both he and Lewerentz.[47] This building came at a time when functionalism was prevalent, so its plan gained a certain sense of flexibility and practicality. Gardens and waiting rooms between chapels allow for multiple services to take place at the same time. This is a benefit for a cemetery on the edge of the capital city, which may experience a greater influx of funerals than a more rural cemetery of the same size. Waiting rooms, not present in the previous chapels, allow mourners to look out at the pastoral landscape.[48]

[47] "The Woodland Crematorium." Stockholmstad. Accessed May 24, 2019. https://skogskyrkogarden.stockholm.se/in-english/architecture/buildings/woodland-crematorium/.
[48] Ibid.

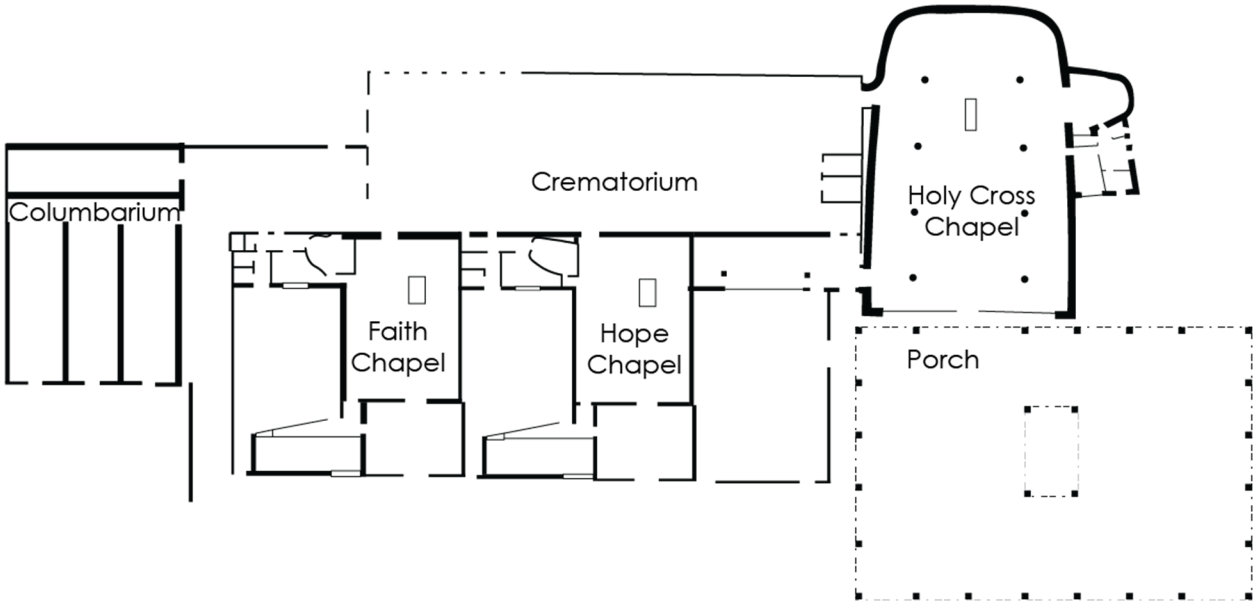


*Figure27: Skogskyrkogarden Crematorium Plan (Source: Author)*

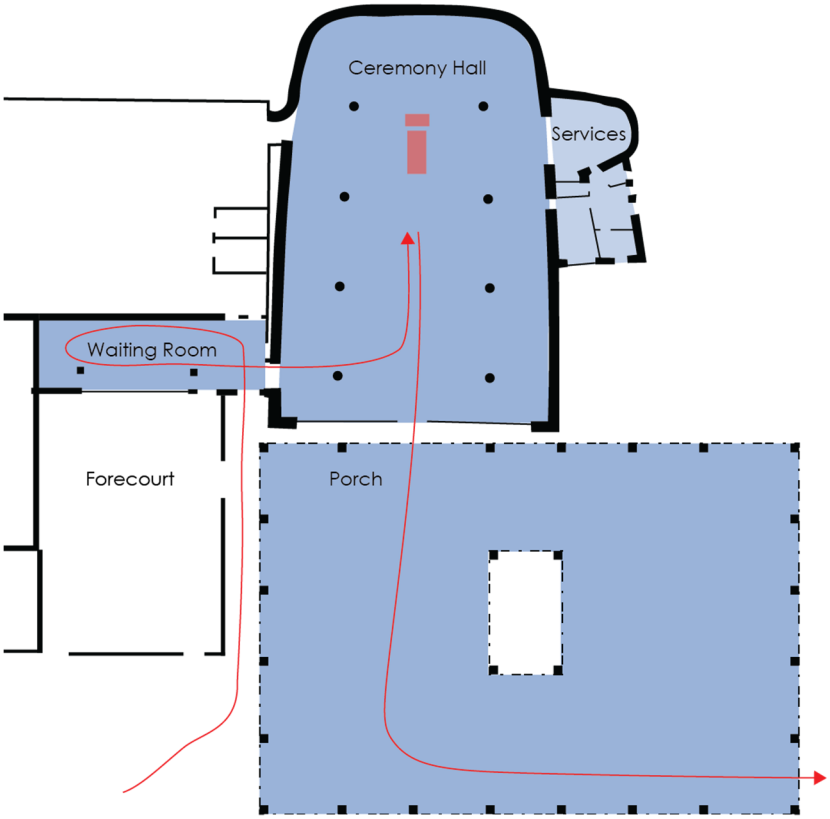


*Figure 28: Sequence of the visitor through major spaces. (Source: Author)*

All three of the chapels share many of the same details. Once more, focus was put on the catafalque. Spaces are given to close family near the front of the ceremony hall. The floor here was inlaid to give those mourners something to fix their gaze upon in their moment of sorrow.[49] All of these chapels have coffin raisers that bring the coffin up to the ceremony hall from the floor below, as well as chambers for officiants, organ lofts, and  Hope and Faith chapels are nearly identical in size and design, each holding about 100 mourners. Holy Cross Chapel is significantly larger than the other two, with the capacity to hold three times as many people. The chapel also features a fresco, *Life—Death—Life* by Sven Xet Erixson.[50] The final defining feature of the Chapel of the Holy Cross is the ten thousand square foot portico ——preceding its entrance.

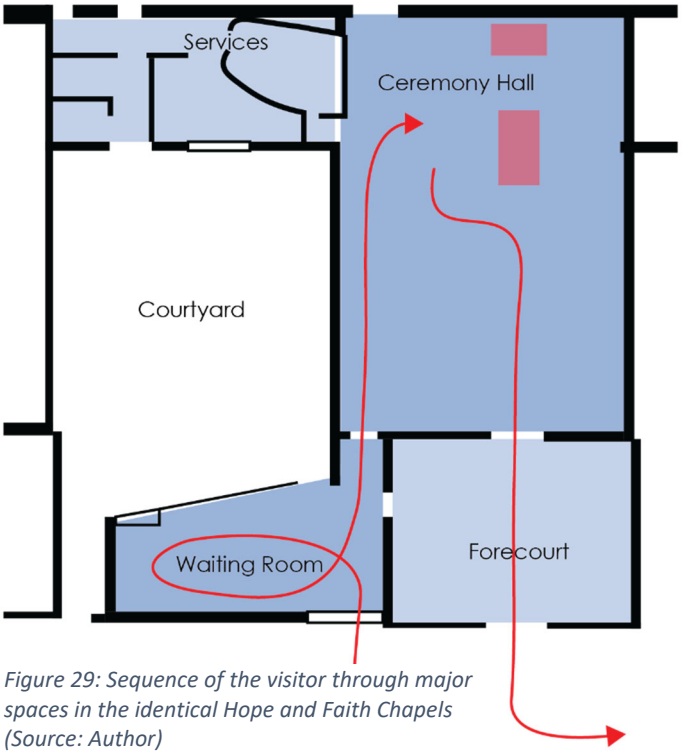


*Figure 29: Sequence of the visitor through major spaces in the identical Hope and Faith Chapels (Source: Author)*

[49] Ibid.
[50] Ibid.

*Figure 30: Interior of Holy Cross Chapel (Source: Author)*

*Figure 31: Portico preceding Holy Cross Chapel. (Source: Author)*

Funeral Home: Barcelona, Spain

In Barcelona, Spain, a more contemporary funeral home has been constructed by Batlle I Roig Arquitectues. This 2011 build uses pine board, cast concrete, and corten steel columns to define space and planes.[51] Mourners are led from reception to the main hall, and then a private courtyard. A continual path makes the event more harmonious for the visitor. The architects also affect the experience of the deceased's family by using the materiality of the building and natural light to define the atmosphere of each space. The building clearly distinguishes its public areas, as well as the private ones that provide service rooms for funeral preparation and the movement of coffins.[52] The floor plan is completed by a series of patios that filter ambiance of different spaces.

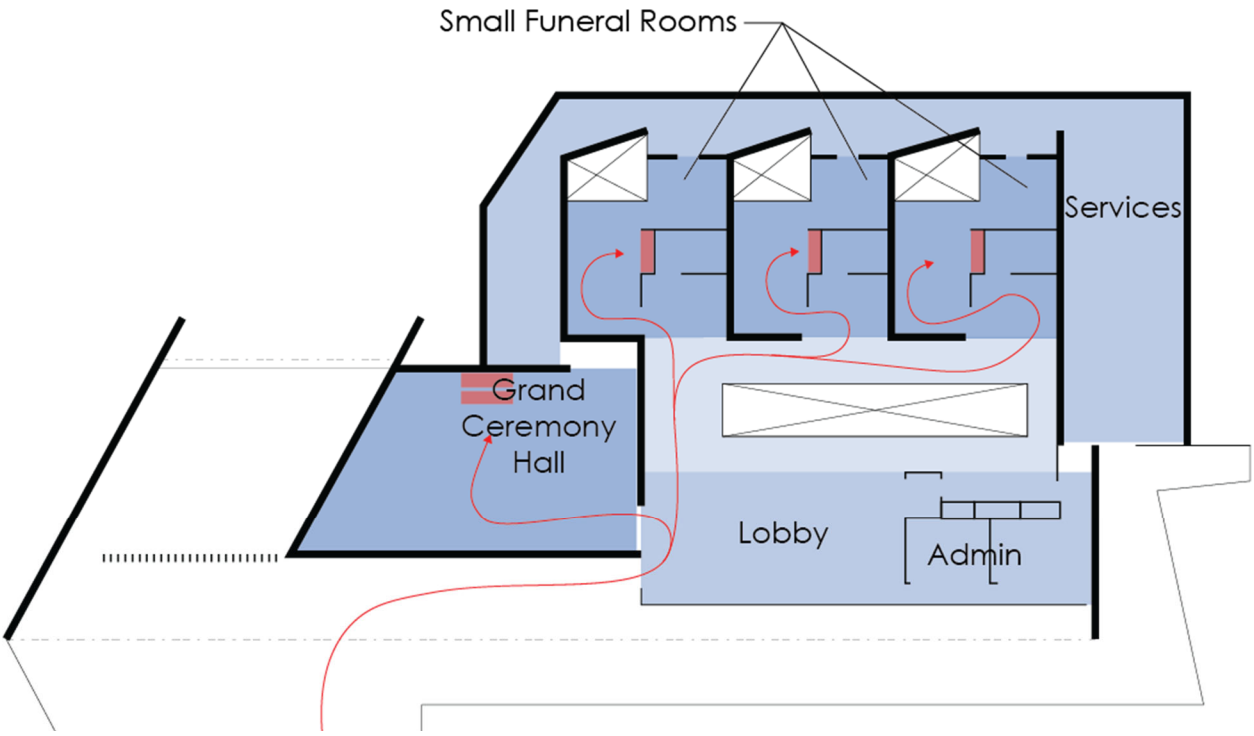


*Figure 32: Visitor movement to major spaces. (Source: Author)*

[51] Frearson, Amy. "New Funeral Home in Sant Joan Despí by Batlle I Roig Arquitectes." Dezeen. October 07, 2013. Accessed May 24, 2019. https://www.dezeen.com/2013/10/07/new-funeral-home-in-sant-joan-despi-by-batlle-i-riog-arquitectes/#disqus_thread.

[52] Ibid.

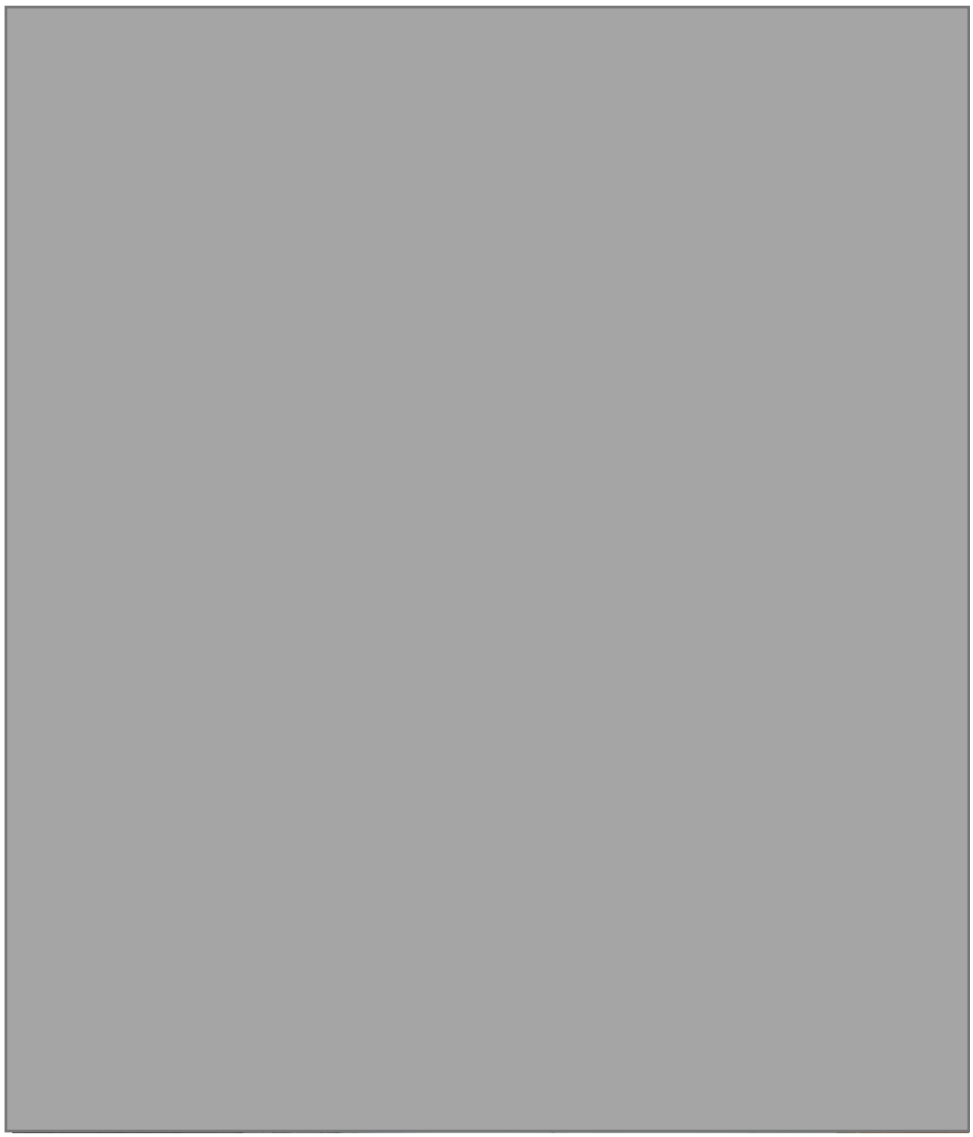

*Figure 33: Natural light in the funeral chapel filters down from above. (Source: Surroca, Jordi. "Chapel. Funeral Home at Sant Joan Despi's Cemetery." Digital image. Metalocus. October 31, 2013. Accessed May 24, 2019.https://www.metalocus.es/en/news/funeral-home-sant-joan-despis-cemeterybatlle-i-roig-arquitectes.)*

Ceremonial Complex of Bushey Cemetery: Hertfordshire, England

A 2017 project in Hertfordshire, England by Waugh Thistleton Architects, provides new prayer halls for the expansion of Bushey Cemetery.[53] Because this is a Jewish cemetery and there is no Jewish building typology, the building's design was influenced more by the burial process than anything else. The prayer halls are constructed of solid rammed earth walls, with a timber colonnade to connect them. Corten steel doors and English Oak complete the subdued material palette. This palette, along with low lighting, creates a calm internal environment within each space. The architect believes that the sequence of spaces needs to be intuitive, since most visitors will be in a state of grief while passing through the building.[54] As the project is an expansion of an existing cemetery, it was important for the design to recognize that the cemetery would likely expand again. If that is the case, this building would be demolished, and another would be constructed further away. To reflect this, the complex is designed to be impermanent, with rammed earth walls that can be returned to their original state, and wood and metal that will be reused in other projects.[55]

[53] "Bushey Cemetery." Waugh Thistleton Architects. Accessed May 24, 2019. http://waughthistleton.com/bushey-cemetery/.
[54] Ibid.
[55] Ibid.

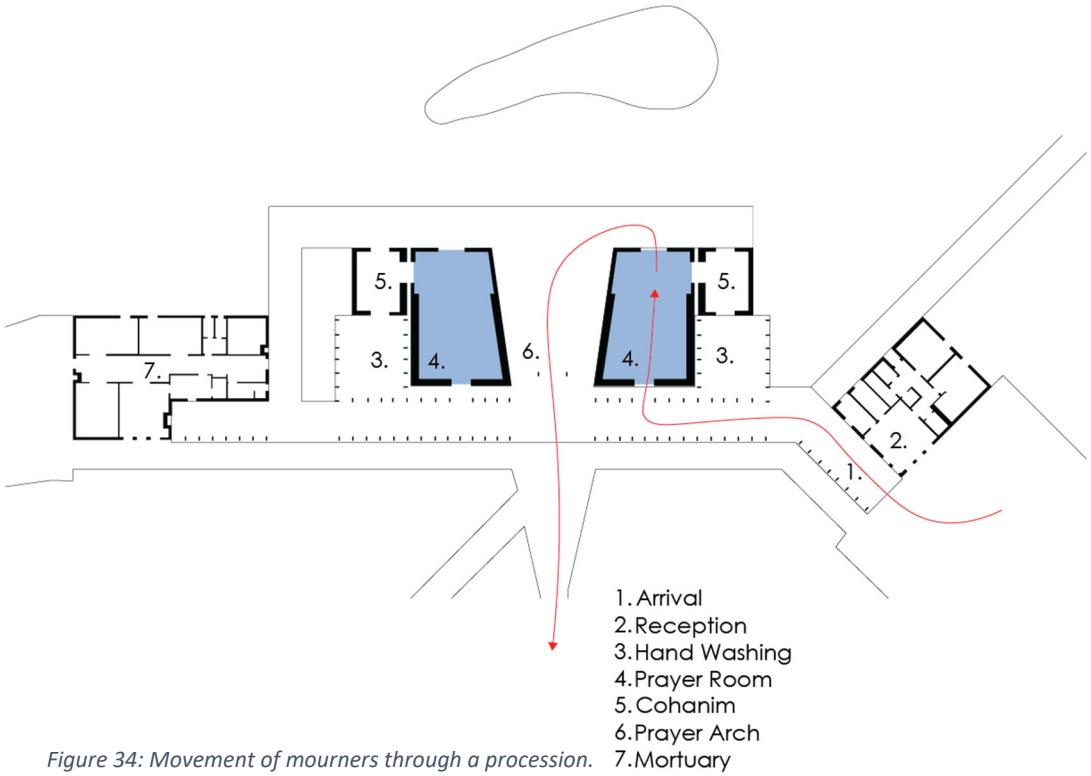


*Figure 34: Movement of mourners through a procession. (Source: Author)*

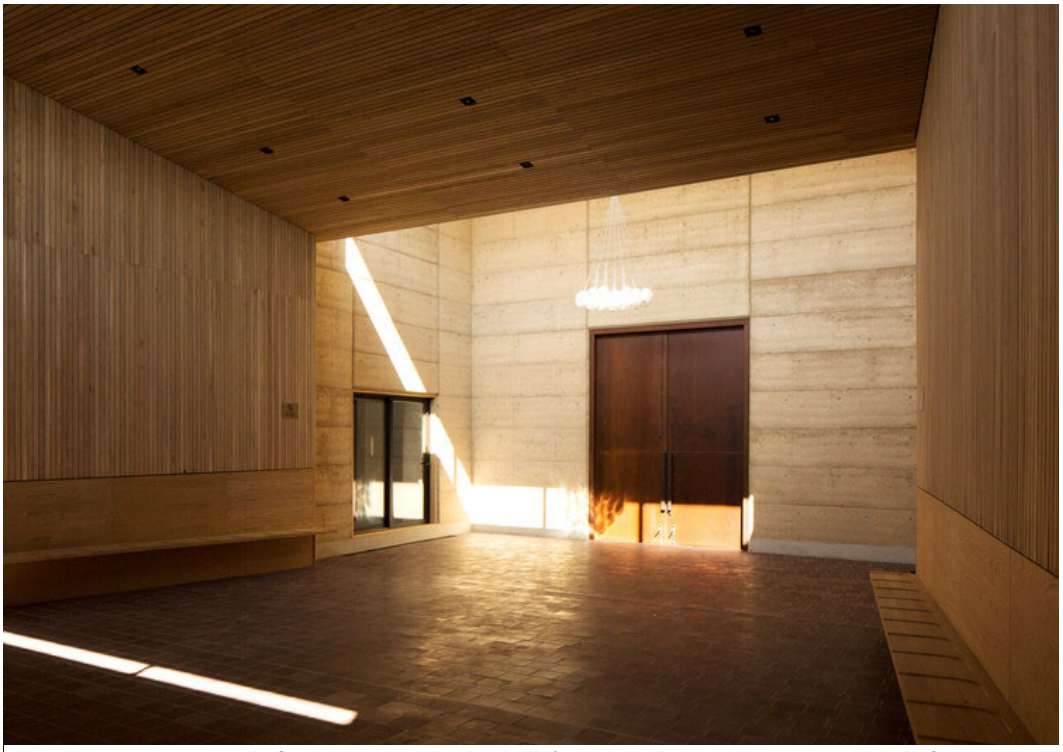

*Figure 35: Waiting space before entry into worship hall. (Source: Kahn, Lewis. Waiting space before entry into worship hall. Digital image. Arch Daily. September 4, 2018. Accessed May 24, 2019.https://www.archdaily.com/901249/bushey-cemetery-waugh-thistleton-architects.)*

## *Chapter 4: Crematoriums*

Introduction

With cremation being a historically practiced form of interment worldwide, when it became popularized in 20th Century Europe, a building typology rose to support it.[56] Cremation is not necessarily a modern practice. It was prevalent in early civilizations and in most of Asia. Wherever bodily resurrection was adopted by cultures and religions, the idea of cremation was rejected—most notably Egypt, and areas with many followers of Judaism, Christianity, and Islam.[57] As Western Europeans began colonizing other parts of the world, alternatives to burial enticed free thinkers who were displeased with the church's influence on public life. This, coupled with the problem of bodily disposal in western urban societies, gave rise to the modern cremation movement.[58]

To encourage the new custom of cremation, traditional architecture of death was discouraged. The main difficulties in defining this new typology, while avoiding tradition, were "furnace placement, how to disguise the chimney, what to do with the body during and after the service, landscaping, and so on."[59] The greatest contributor to this uncertainty was due to the lack of existing rituals or ceremonies for which an architect could create a sequence of space. A British crematorium, Golder's Green, completed in 1928, was the first to separate the entrance and exit for both the living and the dead. This separation created a progression through the ceremonial space, rather than a regression. The innovative design of this crematorium became a necessity in war-stricken Britain, pushing the first funeral procession out and the other one in

[56] Wilkinson, Tom. "Typology: Crematorium." Architectural Review. November 14, 2016. Accessed May 24, 2019. https://www.architectural-review.com/essays/typology/typology-crematorium/10014547.article.
[57] Ibid.
[58] Ibid.
[59] Ibid.

without either party interacting. During this shuffle, the corpse "had either trundled along a belt into the back room, sunk through a trap door, or vanished behind motorized curtains."[60] None of these solutions resolved the resolution of the ending of the ceremony. The family is left with a truncated view of a process without closure. Golder's Green Crematorium also introduced a garden of remembrance, new to the landscape of death. One of the attempts to remedy this, at the Woodland Cemetery in Stockholm, the glass, back wall of the Holy Cross Chapel recedes into the floor at the conclusion of the ceremony. "The mourners are thus invited to turn from the scene of death to the light and life of the natural world."[61] In a 1967 article, by Peter Bernard Bond, it is suggested that part of the bereavement process be to observe the start of the cremation

*Figure 36: Golders Green Crematorium (Source: Ceridwen. "Golders Green Crematorium." Digital image. Wikimedia Commons.January 27, 2008. Accessed May 24, 2019. CC BY-SA 2.0. https://commons.wikimedia.org/wiki/File:Golders_Green_Crematorium_-_geograph.org.uk_-_676569.jpg.)*

[60] Ibid.
[61] Ibid.

process. Much like the addition of soil to a grave, Bond believed this would bring closure to families.[62]

The following 21st Century crematoriums build on the studies and iterations listed above to continue to enhance the bereavement process in what remains a relatively new typology.

[62] Ibid.

A New Crematorium for Skogskyrkogarden

*Figure 37: The new crematorium "A Stone in the Forest" exemplifies its namesake. (Source: Author)*

Bridging the gap between new and old, the recently added crematorium at Woodland Cemetery in Stockholm was completed in 2013 by Johan Celsing Arkitektkontor.[63] The commission was won via a competition by the Stockholms Cemetery Committee. To protect Gunnar Asplund's original crematorium as a UNESCO World Heritage Site, a new crematorium

[63] "The New Crematorium, The Woodland Cemetery / Johan Celsing Arkitektkontor." ArchDaily. September 22, 2014. Accessed May 24, 2019. https://www.archdaily.com/547748/the-new-crematorium-the-woodland-cemetery-johan-celsing-arkitektkontor.

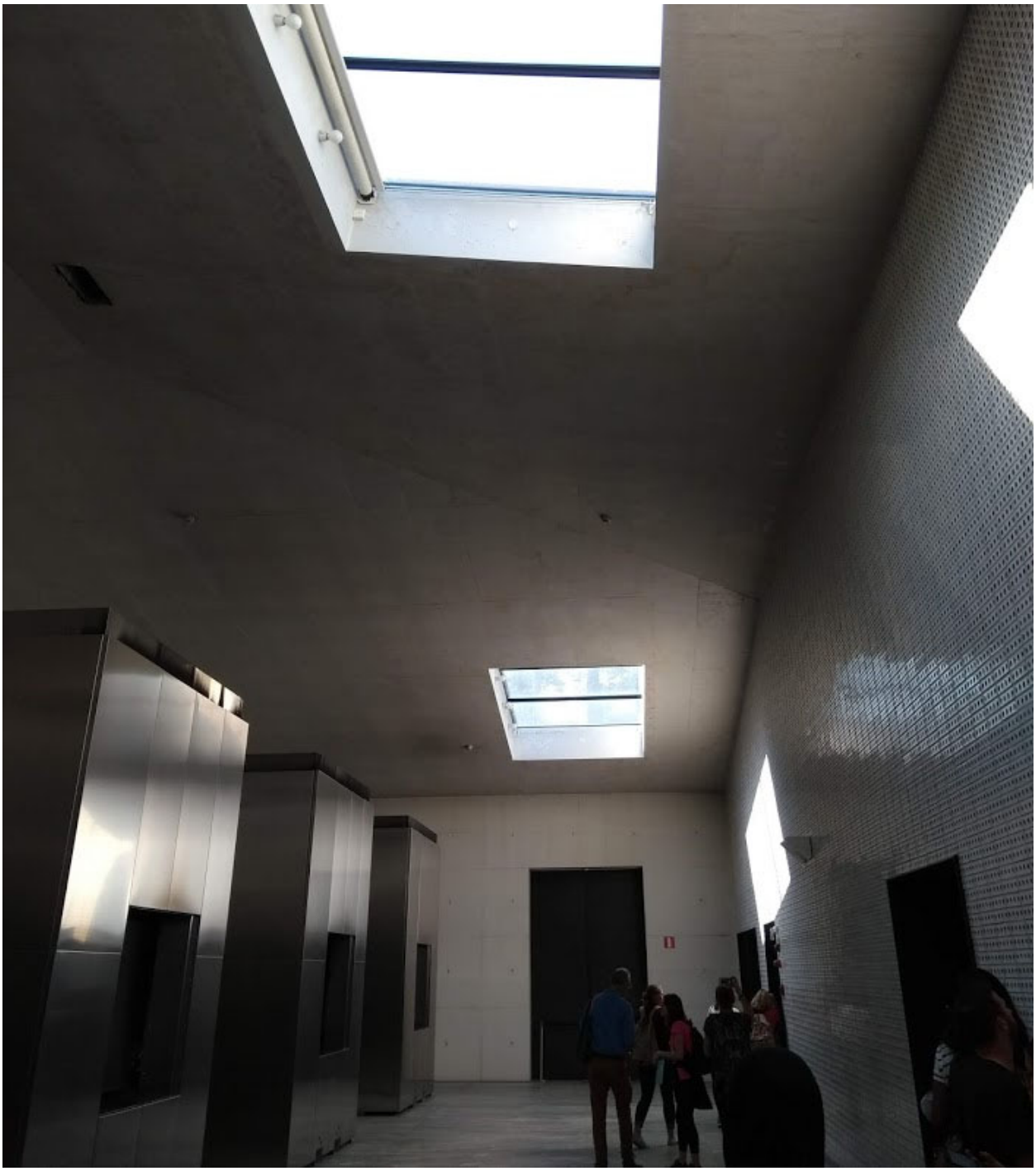

*Figure 38: The interior of the furnace hall is clad with perforated bricks. (Source: Author)*

had to be constructed that met current technical requirements. Making these changes to the original building would diminish its value as a heritage site.

The new crematorium maintains a compact floor plan, favoring space for staff while minimally impacting the surrounding forest.[64] The structure is composed of a white Danish cement. When the formwork was dismantled no treatment was applied to the surfaces, revealing subtle signs of the construction methods. Perforated bricks are used in the interior for acoustics. In addition to this quality, the white glaze reflects sunlight and air conditioning is provided

*Figure 39: A brick-covered porch welcomes the bereaved. (Source: Author)*

[64] Ibid.

through some of the perforations. A space that makes use of the perforated bricks is the small public ceremony hall where families may have services for urns or coffins.[65]

An atrium is located at the center of the staff spaces, allowing for communal lunch breaks without disturbing mourners. Other bricks are used on the exterior of the building, covering both the façade and the roof. The color and texture that they provide relate back to the pine trees on


*Figure 40: In a crematorium, it is crucial to understand how a body passes through the facility. (Source: Author)*

[65] Ibid.

site. The building is reached via a path of granite slabs in the forest. A portico, also clad in brick, provides mourners a space to gather or rest within proximity of the woodland.[66]

**Seisegem Crematorium: Aalst, Belgium**

*Figure 41: Crematorium in the earthen landscape. (Source: "Seisegem Crematorium Facade with Earthen Mounds." Digital image. KAAN Architecten. Accessed May 24, 2019. http://kaanarchitecten.com/project/crematorium-siesegem/.)*

Crematorium Siesegem, located outside of Aalst, Belgium was completed in 2018 by KAAN Architecten. A square building of 74 m x74 m, this Belgian crematorium "[internalizes] the landscape so that its tranquility console[s] visitors and provide[s] strength."[67] Greenery surrounding the building, like the trees and shrubs at the perimeter, are seen by the architects as extensions of their design and important to the ceremonies that take place inside. Moving in from

[66] Ibid.
[67] "Crematorium Siesegem." KAAN Architecten. Accessed May 24, 2019. http://kaanarchitecten.com/project/crematorium-siesegem/.

the exterior, a porch on the south-west corner welcomes visitors to the building. Like other precedents, it was important for KAAN to provide simplicity in the sequence of spaces, so mourners are not lost or confused. The featured public parts of the building are ceremony halls, each with an adjoining family room and place for condolences. These halls open to enclosed patios that blur the border between exterior and interior space.[68]

A unique quality of this crematorium, fundamental to the design, is the disclosure of the cremation process. The goal of this choice is to juxtapose mechanical system spaces with those of serenity. Chimneys in the furnace hall are exposed and run through a skylight in the roof. In

*Figure 42: Crematorium chimney meets ceiling plane. (Source: "Chimney of crematorium projecting through roof." Digital image. KAAN Architecten. Accessed May 24, 2019.http://kaanarchitecten.com/project/crematorium-siesegem/.)*

[68] Ibid.

the early development of crematoriums, the chimney was one of the features architects struggled to hide.

The crematorium also hosts a feature specific to Belgium, a cafeteria for families to reconnect and share a meal. In this country, it is common for the crematorium typology to have a more complex program for this reason.[69] More generally, a meal that happens after a funeral is called a repast, coming from the Latin word for meal. KAAN Architecten sought to celebrate this notion in this project, creating large gathering spaces for people to congregate. Even to the hallways are of a monumental scale, allowing for more informal pauses to greet family.

*Figure 43: Marble pattern in chapel. (Source: "Daylight shines on marble walls and floor." Digital image. KAAN Architecten. Accessed May 24, 2019. http://kaanarchitecten.com/project/crematoriumsiesegem/.)*

[69] Levy, Natasha. "Kaan Architecten's Belgian Crematorium Rejects "Pompous Monumentalism"." Dezeen. November 22, 2018. Accessed May 24, 2019. https://www.dezeen.com/2018/11/22/kaan-architectens-belgium-crematorium-siesegem/.

Materials present refer to beige shades from nature, often a hue resembling sand or dust.[70] This is apparent in the paint, the concrete, and rows of leather bench seats in the ceremony halls. The most decorative element is the cut of the marble that has been sliced and placed to create symmetric patterns on featured walls. Allowing this to become a design element once more reflects the notion of beauty in nature.


*Figure 44: Spatial proportions dedicated to programmatic themes at Seisegem Crematorium. (Source: Author)*

[70] Ibid.

Crematorium: Kėdainiai, Lithuania

The Crematorium in Kėdainiai, Lithuania, designed by Architektu Biuras G.Natkevicius ir Partneriai, is the first of its kind in the country. Before the crematorium opened its doors in 2011, Lithuanians seeking cremation needed to receive services in Latvia and Poland.[71]

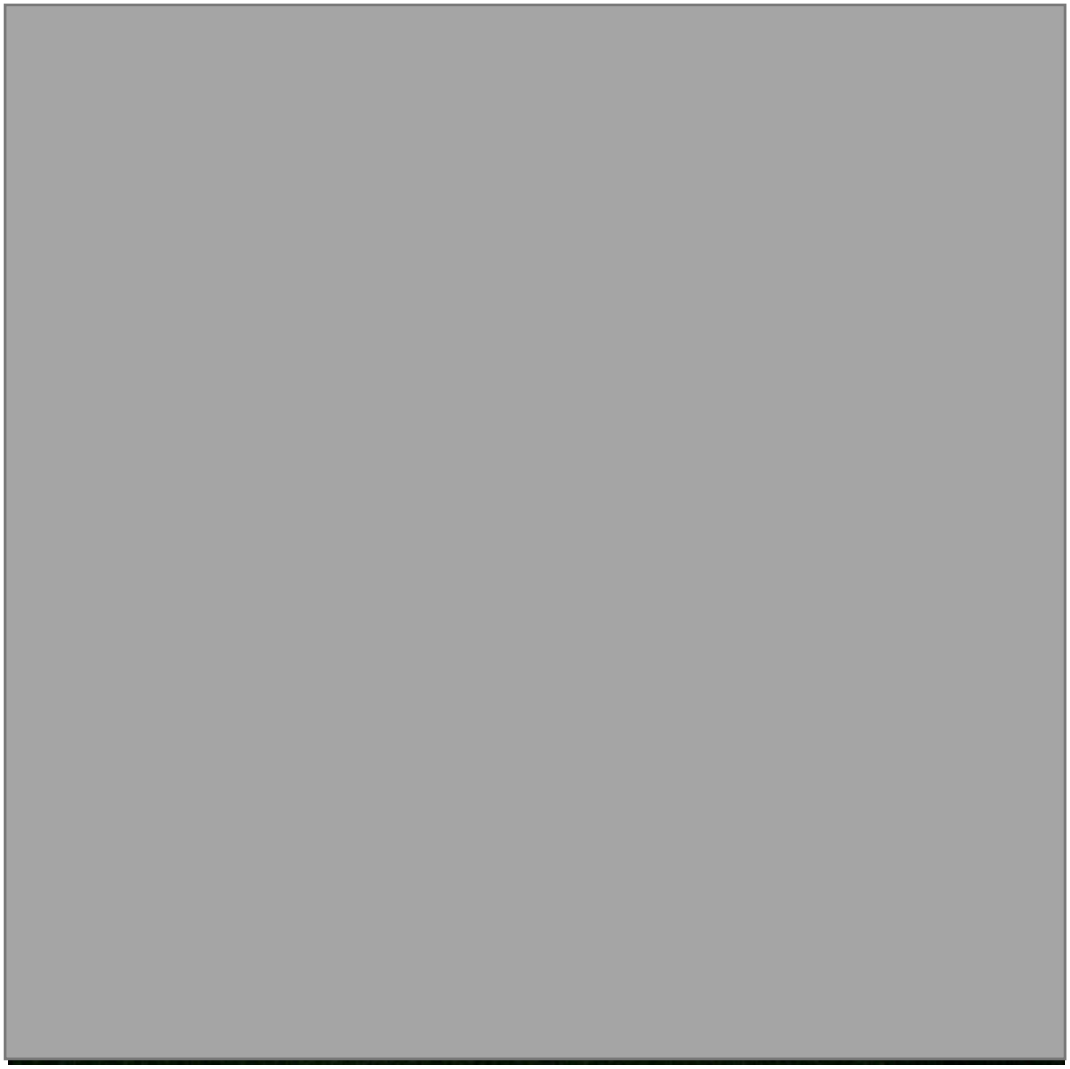

*Figure 45: Light filters out through portals in the courtyard wall. (Source: Česonis, G. Exterior corner of crematorium at dusk. Digital image. Dezeen. March 21, 2012. Accessed May 24, 2019. https://www.dezeen.com/2012/03/21/crematorium-in-kedainiai-by-architektubiuras/.*

[71] Frearson, Amy. "Crematorium in Kėdainiai by Architektu Biuras G.Natkevicius Ir Partneriai." Dezeen. March 21, 2012. Accessed May 24, 2019. https://www.dezeen.com/2012/03/21/crematorium-in-kedainiai-by-architektu-biuras/.

Situated in an industrial park, the single-story structure takes the form of a long, concrete bar. A challenge for the architects here was to create a sacred place in the context of an industrial park, with nearby sugar mills and fertilizer factories. The solution to this predicament is an architecture that is almost introverted in nature. Instead of sweeping views to surroundings, like other examples in this chapter, the experience formed is intrinsic and self-reflective. Even the chimney is hidden the building's volume. The interior surfaces are concrete, glass with aluminum, wood veneer, and white plaster; each of these materials' muted color performs its duty to create a subdued atmosphere.[72] "The ascetic inside allows families to concentrate on a solemnly sad hour with no interference of a colors and details."[73] The architect goes so far as to imply that the people who inhabit the space become an important part of the interior and attention to them should be given over attention to color and detail. In this way, the user is a building material and the architect does not intend for anyone to experience the space alone.

A cluster of square, punched openings at one end of the façade reveals a courtyard within the perimeter wall. This courtyard, situated around a pendulum elm, expands the usable space of the crematorium. Though the building could not be oriented to contextual views, the architects were able to make them with a glazed wall that faces the private courtyard.

[72] Ibid.
[73] Ibid.

*Figure 46: Interior of Lithuanian crematorium. (Source: Česonis, G. Interior of lobby facing urn display and ceremony room. Dezeen. March 21, 2012. Accessed May 24, 2019. https://www.dezeen.com/2012/03/21/crematorium-in-kedainiai-by-architektubiuras/.)*

## *Chapter 5: The Recreational Cemetery*

### Introduction

The concluding topic of this chapter focuses on a key portion of the thesis exploration: cemeteries that provide recreational opportunities for their communities. Too often, cemeteries are only visited when a loved one passes or when one goes to visit them. These traditional burial grounds are groomed lawns serving one purpose, the hold the dead. Some urban cemeteries seek to change this narrative that has become all too common in the United States. Emphasis will be on the activities offered and use of facilities, rather than the design, since these places were not necessarily planned for their current uses.

Green-Wood Cemetery: Brooklyn

History

Green-Wood Cemetery in Brooklyn, NY opened its gates in 1838 and was one of the first rural cemeteries in American. In the 1860s it became the nation's second-most popular tourist attraction.[74] People traveled there for family outings, opportunities to view sculpture, and to see its picturesque 478 acres. This notoriety caused the cemetery to become the inspiration to create public parks. In 2006, Green-Wood received designation as a National Historic Landmark by the Dept. of the Interior, recognizing its significance to the nation. A fund established in 1999,

*Figure 47: Entry gates to Green-Wood Cemetery. (Source: Berkowitz, David. Green-Wood Cemetery Gates. Digital image. Wikimedia Commons. April 30, 2011. Accessed May 24, 2019. CC BY 2.0 https://commons.wikimedia.org/wiki/File:Green-Wood_Cemetery,_Brooklyn-8.jpg.)*

[74] "About / History." Green-Wood. Accessed May 24, 2019. https://www.green-wood.com/about-history/.

serves to maintain the cemetery's monuments and buildings of significance, increase knowledge of the landmark, and preserve the habitats and park spaces.[75]

*Figure 48: Hillside in Green-Wood Cemetery. (Source: TCY. Green-Wood Cemetery, Brooklyn, NYC. Digital image. Wikimedia Commons. November 2008. Accessed May 24, 2019. CC BY-SA 3.0 https://commons.wikimedia.org/wiki/File:Green-Wood_Cemetery_Graves2.jpg.)*

Recreation and Operations

This fund, maintained by membership to the cemetery and donations, also pays for public events. The regularly scheduled proceedings include themed walking and trolley tours, as well as book talks. Other, more seasonal events, such as small concerts and festivals, film viewings, artist installations are also scheduled.[76] An annual Memorial Day Concert at the cemetery is regularly attended by over 3,000 guests, according to Green-Wood's 2017 Annual Report.[77] The

[75] Ibid.
[76] "Upcoming Events." Green-Wood. Accessed May 24, 2019. https://www.green-wood.com/calendar/.
[77] "2017 Green-Wood Annual Report." Green-Wood. 2017. Accessed May 24, 2019. https://report.green-wood.com/2017/.

cemetery's chapel also offers venues for weddings, lectures, masses, and other services.[78] Though these may be conventional uses for a chapel, they are less-common for cemetery chapels. The cemetery has also become a shooting location for countless Hollywood films.[79] "The potential for a historic urban cemetery to diversify its role in the life of a city is being chartered by Green-Wood's innovations."[80] The endowment fund from each grave pays only for lot maintenance; so, in order to maintain its position in the community, the cemetery depends on grants and donations to fund cultural, historical, and preservation programming.

[78] "Site Rental." Green-Wood. Accessed May 24, 2019. https://www.green-wood.com/2012/site-rental/.
[79] "Film and Video." Green-Wood. Accessed May 24, 2019. https://www.green-wood.com/2010/film-and-video/#locations.
[80] "2017 Green-Wood Annual Report." Green-Wood. Accessed May 24, 2019. https://report.green-wood.com/2017/fundraising/.

National Congressional Cemetery

History

National Congressional Cemetery in Washington, D.C. remains as another example of an active cemetery. With its first burial in 1807, the cemetery became one of Washington, D.C.'s first institutions.[81] The 35-acre Cemetery remains the final resting place for many notable figures in United States and Washington, D.C. history, including scores of senators, and veterans of every American war. In the 1980s, the Cemetery went into decline, repairs and maintenance went uncompleted, and the grounds became the home for prostitutes and drug dealers in the city.[82]

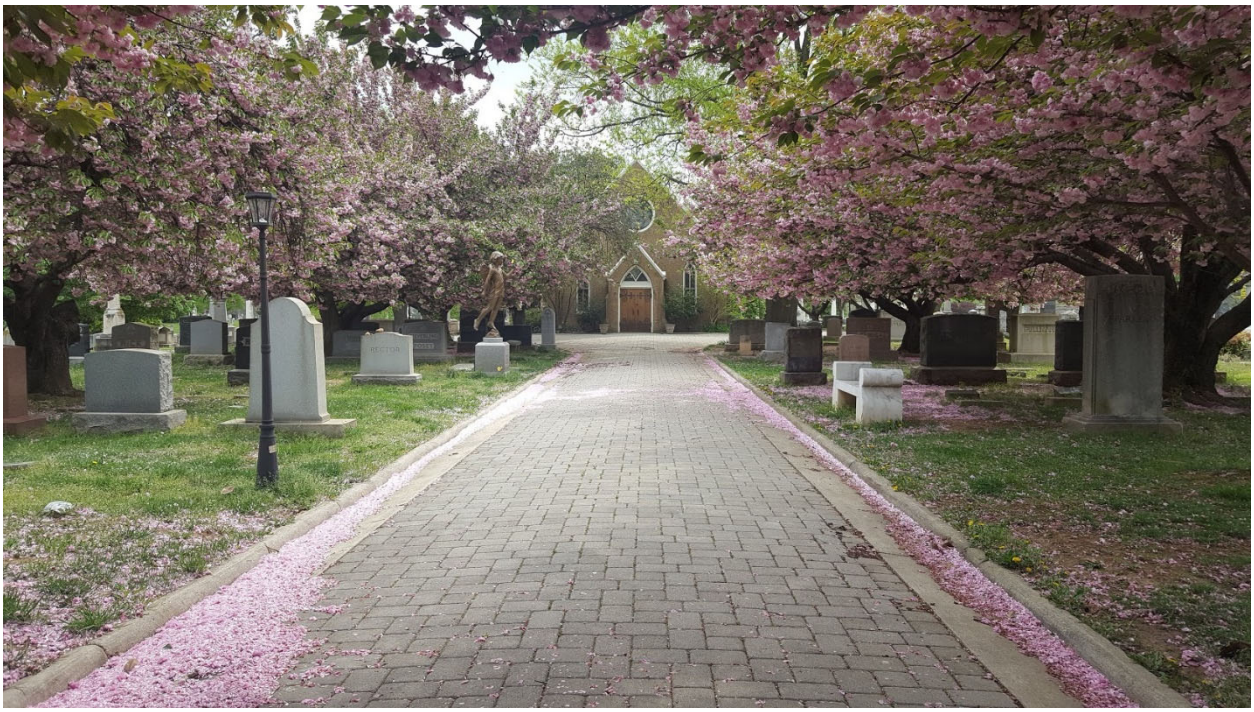

*Figure 49: Promenade on axis with cemetery chapel. This stretch of pavers is filled with tents and tables for events. (Source: Author)*

[81] "Why Congressional." Congressional Cemetery. Accessed May 24, 2019. https://www.congressionalcemetery.org/why-congressional.asp.
[82] "President of National Congressional Cemetery." Interview by author. April 19, 2019.

Revival

In the late 1990s, the cemetery landed itself on the National Trust for Historic Preservation's list of America's Most Endangered Historic Places. According to the cemetery's President, Paul Williams, being designated on this list was both the worst thing that could happen and the best. Though it is terrible to be placed on the list, it called attention to the cemetery's ongoing problems, causing Congress to appropriate funds to the burial ground sharing their name. This publicity also inspired additional donations as well as volunteers to contribute the well-being of the cemetery. A group of dog walkers, known as the K-9 Corps, began in 1997 to drive out nefarious activity in the cemetery. With a constant stream of people walking through the site, a constant presence made the place less attractive to its squatters. The members of the K-9 Corps pay dues each year to help pay for the cemetery's upkeep. They must also complete volunteer hours annually to maintain their membership. As of early 2019, the K-9 Corps has 600 human and 800 canine members.

*Figure 50: A K-9 Corps member plays in a naturally occurring spring at the cemetery. (Source: Author)*

Due to National Congressional's monetary history, the endowments other cemeteries depend on for upkeep are almost non-existent here. Poor management and embezzlement in the early years of the cemetery's revival in the late 1990s made these challenges even more difficult.[83] Today, the cemetery's endowment pays for the maintenance of the graves, but that is all. The salaries of the team operating this institution, as well as other costs, depend fully on donations and fundraisers.

## Recreation

In addition to the K-9 Corps, the cemetery hosts a variety of other events throughout the year. Daily tours are given throughout the grounds. Lectures, talks, and book clubs are held in the chapel on site. The floor of the chapel is also used as a dancing area for weddings held on the grounds. Williams said that they have held weddings as large as 500 people, with tables lining the chapel's main promenade. The chapel has also been a place for parties, with the altar serving as a location for the bartender. More family-oriented programming, like movie screenings, happen amongst the graves. Another way the cemetery makes money is by hosting 5k runs, recently becoming a certified location for them. The cemetery is ideal for this type of event in the city because other locations downtown, like the National Mall, require extensive permits and police assistance. These items can drive up the cost of such events for organizers, so a solution is the cemetery, which typically collects a flat rate and a fee per runner.

With all these events happening at a place meant to honor the dead, one wonders how the cemetery manages the experience of mourners visiting graves and new interments. Williams said that they mostly make this work by scheduling funerals around event times. There are dedicated

[83] *President*

times for families on Saturdays and major holidays as well. Otherwise, they operate with the understanding that this is what the cemetery is. The definition of National Congressional Cemetery does not stop after listing it as burial grounds; the events held here are the lifeblood that keeps it going. After the dereliction of the cemetery in the 1990s, families of the deceased are more reassured by its upkeep, than bothered by a few dogs running around while they visit.

## Natural Burial

National Congressional Cemetery is the only cemetery in Washington, D.C. that offers natural burial interment options. Natural burial in an urban context has been a concern of this thesis exploration from the start. Paul Williams describes burial as the easiest part of his job because there is not a lot in the city codes about interment restrictions and regulations. In fact, he says "it is pretty much one page of regulations…and two-thirds of that page is about disinterring somebody. They're more worried about taking somebody out of the ground than putting somebody in"[84] This cemetery is what the National Green Burial Council would refer to as a hybrid cemetery because they offer natural and traditional burial options. Here, natural burials are interspersed within the cemetery. Many future residents will select a boulder from the grounds to have it etched as a grave marker. When asked how the experience of natural burial differs from traditional burial at the cemetery, Williams said family members at those ceremonies leave with a better sense of closure. As families typically fill the grave themselves, Williams stated that the communal process causes the bereaved to experience the five stages of grief in a short period. They will start angry, aggressively shoveling dirt onto the remains. With

[84] *President*

each shovel-full, they are calmer and calmer. By the end of the process, the family members are laughing, imagining what the deceased would have said about them being covered in dirt.[85]

Sustainability

The cemetery employs other sustainable practices that help support those begun by

*Figure 51: Natural burial grave with headstone created from boulder found on-site. (Source: Author)*

natural burial. In 2013, the cemetery introduced goats to maintain the grounds without the need for fertilizer or gas-powered mowers. The cemetery provides for other animals too. Apiaries above a row of mausoleums on the grounds produce honey that is later sold in the cemetery's giftshop. This has become such a popular aspect of the cemetery that people have even made plans to be oriented toward the bees when they die. Bat boxes have also been installed in the area

[85] *President*

to promote their livelihood. Most recently planned, a solar array will soon be installed to help offset energy costs in coming years.


*Figure 52: Apiaries rest atop a row of mausoleums in the cemetery. (Source: Author)*

Conclusion

Both Green-Wood and National Congressional Cemeteries challenge what most Americans would consider the traditional function of places for the dead. Out of monetary necessity and social responsibility, the two cemeteries have become substantial institutions in their communities. Though they added programs later, each provides a guide for community interaction and fundraising efforts of future cemeteries. National Congressional Cemetery shows that it is possible to allow the space of bereaved persons and visitors to overlap considerably. Green-Wood Cemetery exhibits a developed cultural significance that reaches beyond visitors

and onto the silver screen. These are only two examples of the untapped potential that exists in every cemetery.


*Figure 53: In the above comparison of programmatic spaces among precedents, the significance of exterior space in all projects is made apparent. (Source: Author)*

Based on precedent studies in the preceding chapters, assumptions about the program requirements of a funeral complex are able to be made. The program categories include: Ceremony, Crematorium, Logistics, and Administration. Each of these is broken down further to the necessary rooms that allow them to function properly as part of the complex.

When studying adjacencies and how the elements of the program fit together, it is logical to connect the ceremony spaces and crematorium spaces directly to administration for the ease of both mourners and employees. However, the ceremony and crematorium spaces must not connect unless through private passages that allow for movement of the deceased and personnel. Stitching all of the spaces together, the logistical areas shall provide continuity where other elements are lacking. With these principles in mind, three iterations of adjacency diagrams have been created.


*Figure 54: Initial Proposed Program for the funeral complex at Port Covington. (Source: Author)*

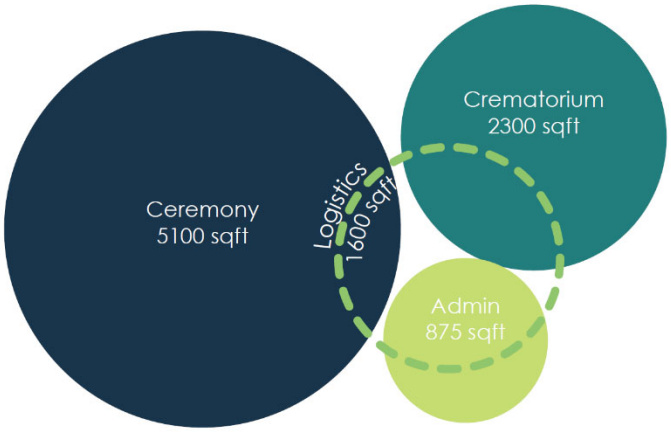


*Figure 55: Initial Program Category Adjacencies Bubble Diagram (Source: Author)*

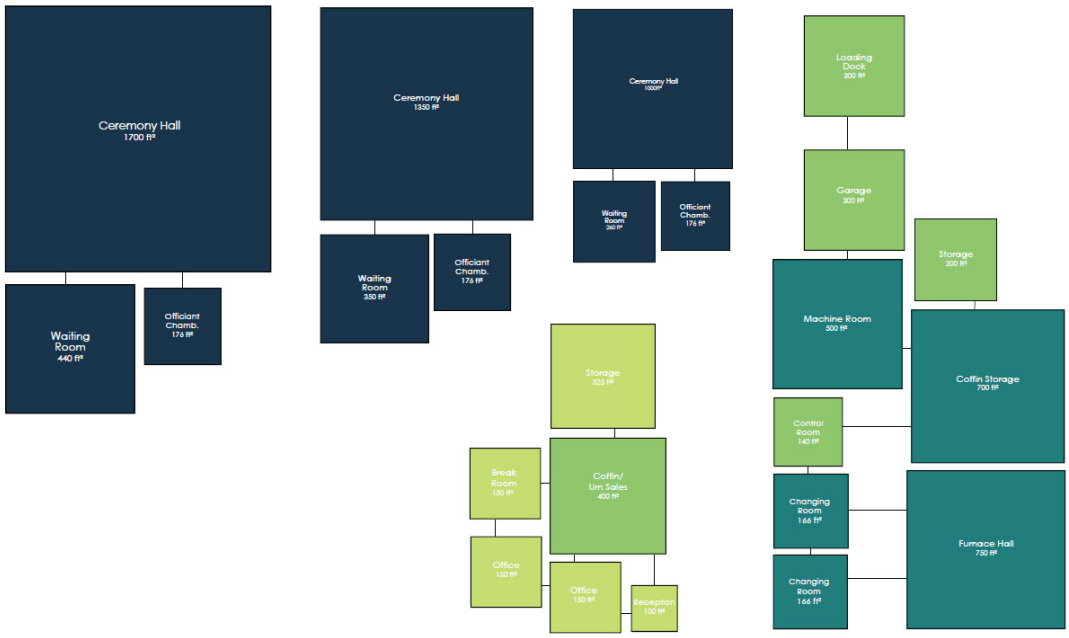


*Figure 56: This diagram explores the idea of the ceremony halls, crematorium, and administration as separate buildings on site. (Source: Author)*

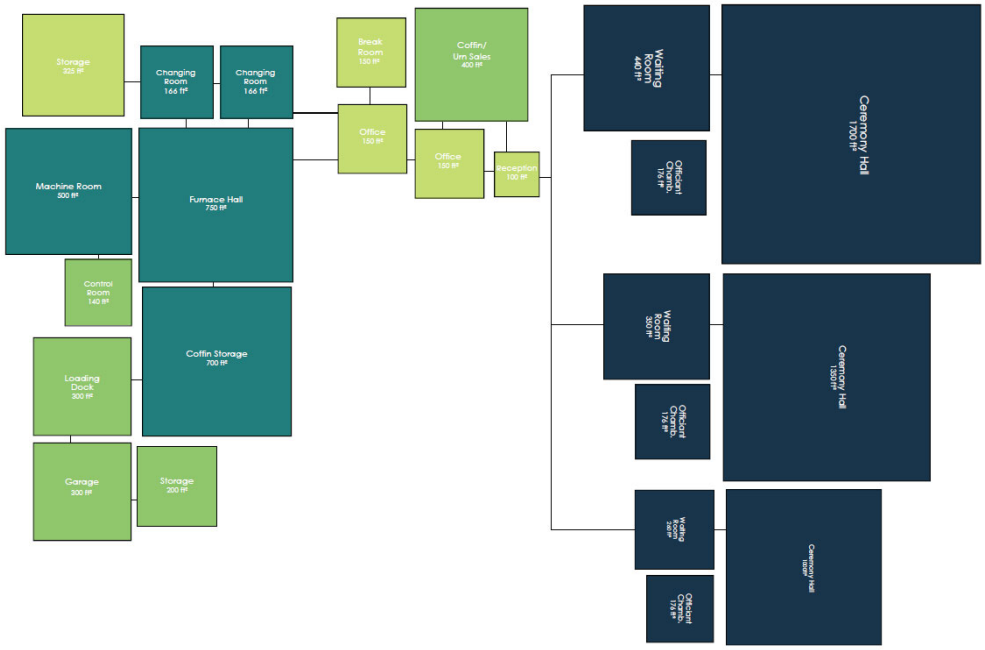


*Figure 57: This configuration of the program elements juxtaposes the crematorium and ceremony halls. (Source: Author)*


*Figure 58: This diagram positions the program elements in a compact configuration that could help with operating costs and circulation times throughout the complex. (Source: Author)*


*Figure 59: This stacking diagram explores the idea of using a sub-terranean level to hold logistic spaces and machinery. (Source: Author)*

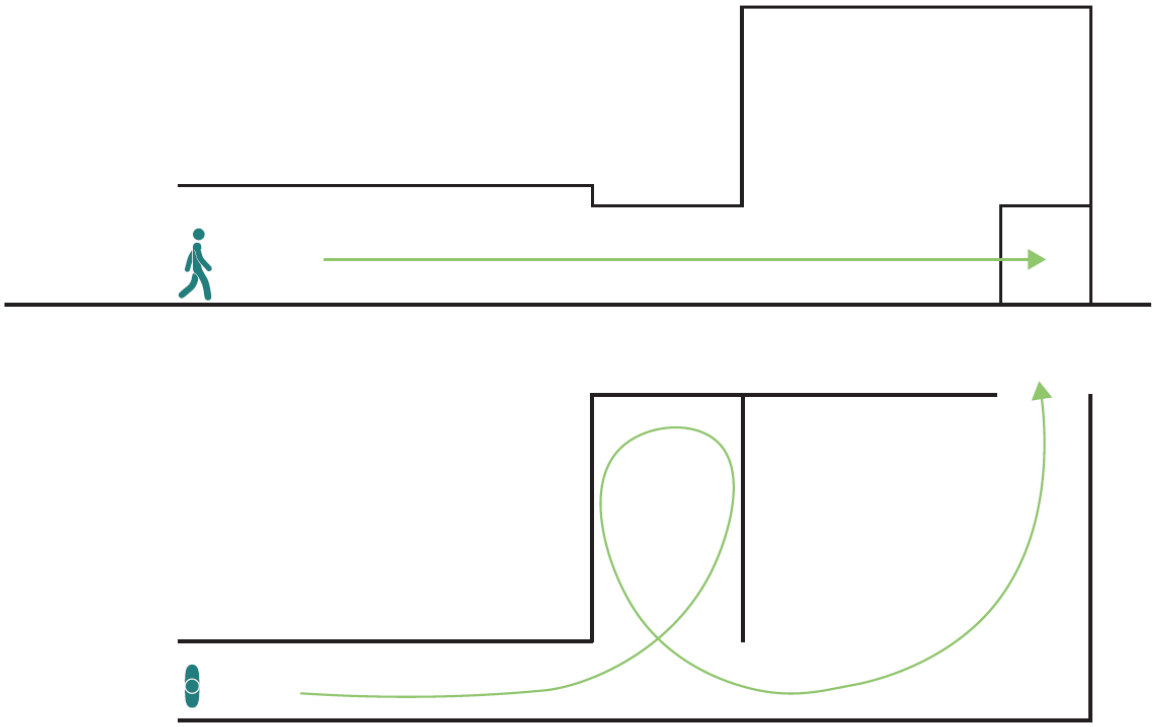

*Figure 60: Movement through promenade, waiting, and ceremony spaces should be intuitive for mourners who are not in the best frame of mind. Varying ceiling heights in these spaces can affect the experience of the mourner as well, low heights comfort the mourner, before high ceilings provide a sense of profound. (Source: Author)*

When looking to the design of the site, the experience of the user must also be created. Understanding how the site will be activated throughout a given day provides insight into circulation needs of users and the time they spend here. Using this information, the final design can accommodate the needs of both visitors and staff.

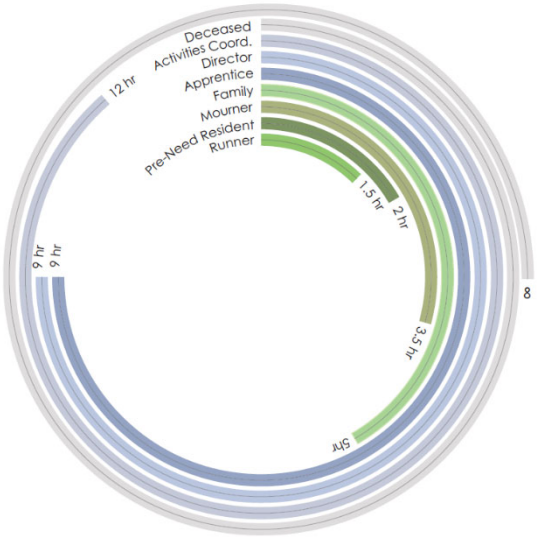


*Figure 61: This duration diagram reveals that visitors spend about a third of the time on site that employees do. (Source: Author)*

# Program

## Sacred

| | Quantity | Square Feet |
|---|---|---|
| Mortuary | | |
| Cold Storage | 1 | 1100 |
| Body Processing | 1 | 500 |
| Loading | 1 | 300 |
| Crematorium | 1 | 1400 |
| Cremation Viewing | 1 | 100 |
| Ceremony I | | |
| Ceremonial Hall | 1 | 600 |
| Waiting | 1 | 300 |
| Storage | 1 | 75 |
| WC | 1 | 65 |
| Ceremony II | | |
| Ceremonial Hall | 1 | 1500 |
| Waiting | 1 | 600 |
| Storage | 1 | 200 |
| WC | 2 | 130 |
| Ceremony III | | |
| Ceremonial Hall | 1 | 2900 |
| Waiting | 1 | 800 |
| Storage | 1 | 300 |
| WC | 3 | 195 |
| TOTAL: | | 11,065 |

## Profane

| | Quantity | Square Feet |
|---|---|---|
| Office Suite | | |
| Reception/Sales | 1 | 1100 |
| Open Office | 1 | 500 |
| Private Office | 2 | 240 |
| Breakroom | 1 | 250 |
| WC | 1 | 65 |
| Storage | 1 | 300 |
| Repast Hall | | |
| Dining Room | 4 | 4000 |
| Warming Kitchen | 4 | 2200 |
| Storage | 6 | 300 |
| WC | 8 | 520 |
| Bistro | | |
| Main Room | 1 | 1100 |
| Storage | 1 | 100 |
| WC | 2 | 130 |
| TOTAL: | | 10,805 |

*Figure 62: Final Program derived from original exploration. (Source: Author)*

## *Chapter 7: Remembrance, Grief, and Memorialization*

Significance of Gravestones as Memorial and Marker

One may argue that the simplest memorial is the gravestone. It is difficult to unravel the intricacies of memory and remembrance without recognizing and exploring humankind's most ubiquitous memorial. Gravestones are a physical marker that anchors one's feelings and memories of a person, as well as their body. The origin of gravestones has a more unique story than one might expect. According to Michel Ragon's Introduction in *The Space of Death*, "Placing heavy stones over a corpse is a way of marking a burial place, but also a way of preventing it from rising."[86] This stems from a time when society feared the dead: nailing down coffins, sealing those coffins in vaults, and locating those within cemeteries with locked gates. It was not for several more centuries after the introduction of heavy grave markers that humanity begins to see informative inscriptions on gravestones that include name, birth date, death date, and even an epitaph. These are further personalized throughout the ages to include different ornate forms. The need to add this information directly to graves was crucial at a time when other technologies did not exist to allow for the recording of grave locations.

In the 21st century, technologies allow for the mapping of burial sites using Geographic Information System (GIS) data. In fact, established cemeteries use these techniques to generate more accurate records of burial and available plots. With this development in technology, it

[86] Michel Ragon and Alan Sheridan, *The Space of Death: A Study of Funerary Architecture, Decoration, and Urbanism* (Charlottesville: University Press of Virginia, 1983), 16.

could be suggested that if the purpose of a gravestone is not to suppress the dead, but rather to locate them, a physical grave marker is not needed.

Some villages of Africa's Ivory Coast, no space is distinguished for the living or the dead. On the public square, people of importance are buried with a carved stone marker. As time passes, these unsupported gravestones gradually sink into the ground, before being completely submerged. The time this process takes is about the same length as the life expectancy in the area. "The disappearance of these stones is a sign that a generation is gone."[87] Carried throughout cultures, this process presents the potential for memorialization to mark the passage

*Figure 63: Family ofrendas used on El Dia de los Muertos are an example of the belief that the deceased live on in the memory of others. (Source: Author)*

[87] Ibid, 14.

of time. It serves its purpose when passions are high, and fades from the public eye as the person fades from the collective memory.

Concept of True Death

So, what is it that drives our desire to remember people and mourn their loss, especially after the initial grieving period? This could take precedence from an ideal presented by Enlightenment philosophers, like Cicero and Diderot, that there is an "eternity of the dead in the memory of the living."[88] They live in the sorrow parts of our memory. Ragon describes the concept of True Death in relation to the beliefs of an Oceanic group of people. 'True death, that is to say nonexistence, appears only with the loss of the collective memory. The dead continue to live as long as the living know their names.'[89]

This credence is alluded to in the recent Disney Pixar film, *Coco*, where the protagonist, Miguel, travels to the realm of the dead and back again on Dia de los Muertos. Along the way, Miguel is tasked with returning to the land of the living to preserve the memory of a friendly spirit, Hector, by putting his photo on the family ofrenda (memorial altar) for the holiday.[90] In the film, a spirit with a photo on a family ofrenda may pass to the realm of the living on El Dia de los Muertos. This also proves that they are still remembered by the living. If a person is forgotten by the living, their spirit disappears from the realm of the dead, experiencing what the film calls "The Final Death."[91] This major theme in the film continues to push forward this terror of being forgotten that was paralleled during the Enlightenment period.

---

[88] Ibid, 213.
[89] Ibid, 213.
[90] "Coco Synopsis." IMDb. Accessed May 17, 2019. https://www.imdb.com/title/tt2380307/plotsummary.
[91] Walker, Alicia. "Coco: How Pixar Uses Mexican Culture to Talk to Kids about Death." Anthropological Perspectives on Death. March 09, 2018. Accessed May 17, 2019.

It is possible that The Final Death in the film expresses a fear for the unknown, as it is never revealed where these souls go after they are forgotten. Other fears are rooted in the dread of the unknown, such as nyctophobia (the dark) and xenophobia (foreign people or situations). Perhaps the best mitigation of this fear for an individual is to put off the experience of the unknown for their loved one as long as possible, in hopes that someone else will do the same for them when they pass.

Creating Meaningful Memorials

After establishing the significance for the individual to be remembered, next is the need for the living to remember and memorialize the dead. For individuals dealing with grief, the creation of a memorial place can be beneficial to the healing process. This is especially true if those places may be "revisited, grieved at, and cared for."[92] For the grieving individual, a memorial can help to quell feelings of helplessness, making them more manageable to deal with. Jean-Pierre Warnier's Three Media of Symbolization suggest strategies to confront these feelings. The first method, sensori-motor media, deals with traumatic experience by recreating it. Taming the event through a replication that does not result in the same damages is said to weaken the terror of the experience. The second media is permanent traces of the person lost, or media of images. The most effective options are those that may be looked at, held, touched, or felt repeatedly. A study by Bennett and Bennett in 2000 looked at what widows did to keep the memory of the deceased alive. They frequently used objects owned by their husbands, as well as photographs to continue communication with them. The study drew attention to the fact that it's

https://scholarblogs.emory.edu/gravematters/2018/03/09/coco-how-pixar-uses-mexican-culture-to-talk-to-kids-about-death/.

[92] Sidaway, James D., and Avril Maddrell. Deathscapes Spaces for Death, Dying, Mourning and Remembrance. Farnham: Taylor and Francis, 2016., 151

common to have a conversation with someone who is no longer living. It is also argued that social interaction with the deceased does not end with their passing.[93] This repetition and the item's permanence establishes a sense of continuity, while burning the event into memory.

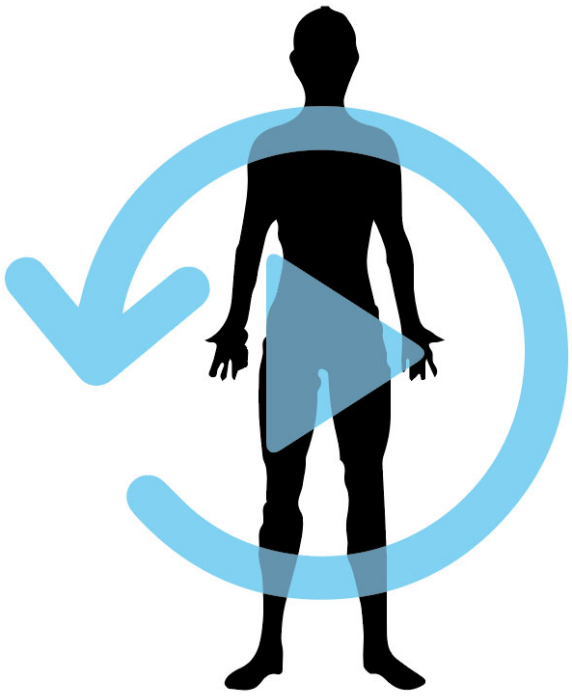

*Figure 64: Sensori-motor media, recreating the events of a death, can help people grieve. (Source: Author)*

[93] Mitchell, Margaret. Remember Me: Constructing Immortality: Beliefs on Immortality, Life, and Death. New York: Routledge, 2007, 3.

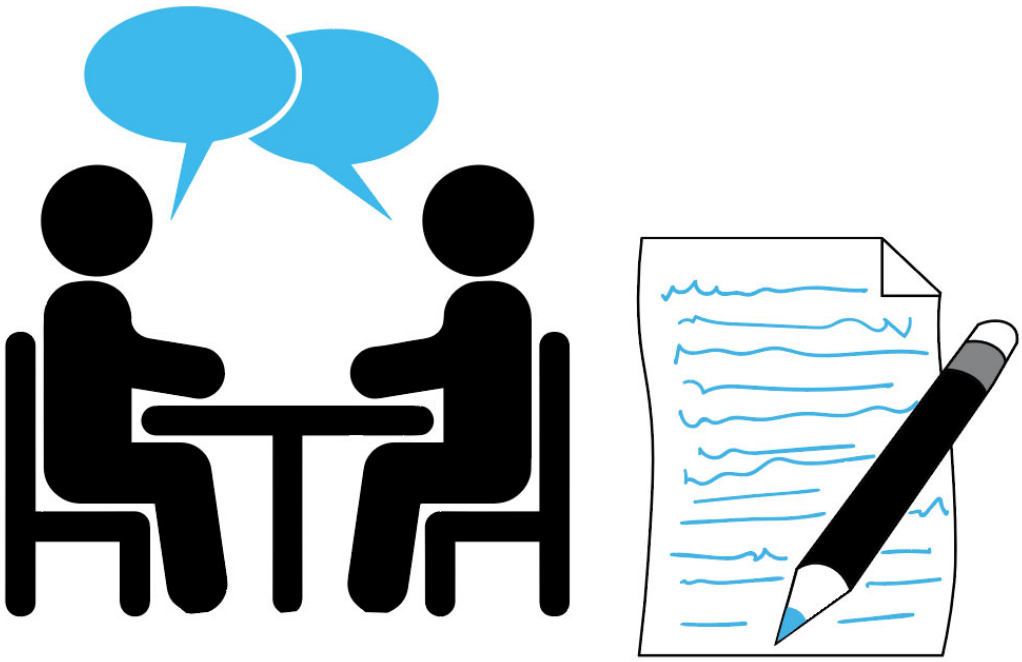

*Figure 55: Media of words allows people to work through their grief. (Source: Author)*

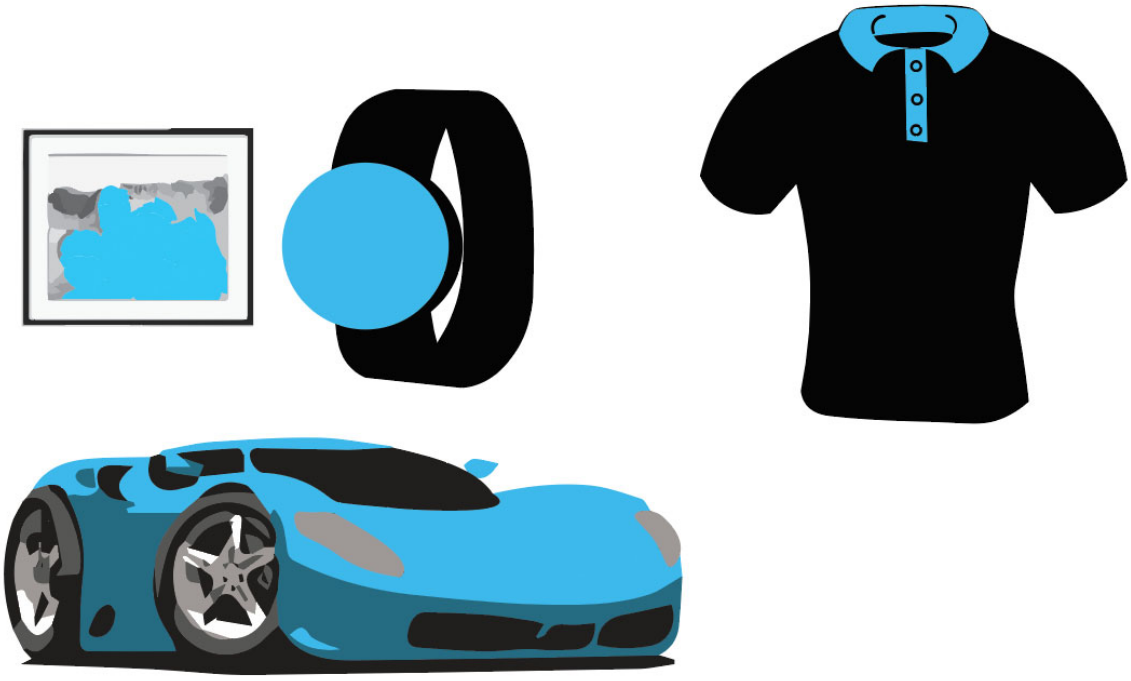

*Figure 66: Media of images allows people to grieve through tactile contact with belongings or photos of the deceased. (Source: Author)*

The third, a media of words, "helps us recall events, facts, images and ideas at will and to communicate them, as well as critically discuss them with others."[94]

Whether visiting a memorial at the site of death or the cemetery, frequenting dedicated spaces of remembrance aid the bereaved in maintaining memories of the deceased. Talking about the deceased, integrates the memory of the person into their lives, almost as if the deceased were still a part of it.[95] This suggests that the living will create a new relationship with the deceased. "Moving on," as it is often phrased, does not have to mean cutting ties with the past, but rather understanding what it means to continue forward.

When one dies, their life becomes part of the shared past of those where were part of their life. The passing of one person can bring up thoughts and memories of other losses to help the person handle their grief.[96] Beyond the individual, there is a social character to memory. Maurice Halbachs' work on collective memory displays memory's dependence on people and places in order to exist and its use of objects to make a physical impression.[97] Memory also depends on certain elements to help it reactivate events of the past. This could be through reexperiencing the place of the event or speaking with those who were present at the creation of the memory. Segments of the past may be found physically in houses, streets, memorials, but also verbally in family, friends, and communities.[98] It is together that these parties may be able to form a more complete picture of the person or event.

---

[94] *Deathscapes*, 152
[95] *Deathscapes*, 152
[96] Field, David, Jennifer Lorna Hockey, and Neil Small. Death, Gender and Ethnicity. London: Routledge, 1997.114.
[97] Ibid, 114.
[98] Ibid, 214.

Public Opinion on Memorialization

Within a family unit, when a person passes it can become a power struggle to determine proper interment of remains due to the ownership of the person's memory between loved ones, each having their own opinion. A "negotiated memory"[99] is reached through argument within the family, fighting over what the person's life meant and what they should be remembered for.

In the case of public memorials, the same arguments happen, but on a grander scale. There is public debate about events and people should be inserted into the continual public memory. "Memorializing and ensuring that a memorial is fitting is a highly contentious subject among all those who have, or believe that they have, a continuing relationship with the dead, and an associated claim over how they should be remembered."[100] As a memorial is seen as a symbolization of the person, how a person's place of death is interpreted by the next generation is of the utmost concern to loved ones. In cases such as Diana Princess of Wales' death in 1997, the public felt like they knew her, so the conversation was mostly about her living on or continuing through memorial.[101] Her memorial ended up manifesting itself as a charity that carries on the work she was so passionate about in her life. With such grand terms and discussion about memorialization, it then becomes difficult to determine how to talk about the marvel of death's everyday influence without downplaying its importance. All belongings of people from buildings and cars, down to toothbrushes and watches, eventually become belongings of the deceased. In this way, they can retain an imbued memory of the person they once belonged to. This makes it difficult for those close to them to part with these items after their passing. The same may be said for every photo ever taken, as it will eventually be the photo of a dead person.

[99] Mitchell, Margaret, 9.
[100] Ibid, 9.
[101] Ibid, 10.

The necessity of memorialization may stem from different stimuli. It could be a guilt from not protecting the deceased from their impending fate. Caring for the person and protecting their memory after they have passed can be an important part of healing for them. Others may be interpreting the loss of a loved one as a loss of control in their own life, and seek to gain that control through influencing memorialization. Some mourners believe it is their duty to the person who has passed to give them proper memorial and "that to fail to remember is an act of betrayal."[102] Maintaining the deceased's grave, memorial, or material possessions can be a beneficial practice for this person. "The incorporation of the dead into one's sense of self…is evident in all such motivations and behaviors. To let the person go would be tantamount to losing a significant part of oneself."[103] All of these factors contribute to the impetus of public opinion and outcry about memorials.

Premise of Digital Memorial

As humanity has shifted to an age dominated by social media, our presence online has increased as well. Facebook and other platforms have foremost become places to share aspects of one's life, rather than in person. Anyone who posts to these outlets with regularity creates a chronological catalog of events, images, people, and causes that they care enough about to share. When a person passes, this becomes almost a ghost of who the person was, or at least portrayed themselves as. Much like every photo, every Facebook profile will eventually feature someone who has passed.

So, what happens to a Facebook account when someone dies? The site does allow the living to request profiles be memorialized, though the word "Remembering" is shown next to

[102] Ibid, 30.
[103] Ibid, 16.

their name and several features are removed.[104] The profile is preserved; those mourning are able to visit it and share their condolences.

When a profile is not memorialized, features remain intact and notifications about the deceased continue. The profile can appear in Facebook Suggestions and birthday reminders year after year. Some people prefer this, "interacting" with the person as if they are still alive.[105] Those grieving see the dead's Facebook page as a virtual cemetery and an accessible form of catharsis.[106] Similar to interactions humans have had with the dead throughout time, visiting and leaving items at graves, the same is done now online with the sharing of stories, memories, photos on timelines.

Though Facebook is a convenient option, the reach of online memorials goes even further. The bereaved seek the help of memorial website services or even create their own. People use these spaces to converse with the dead on the anniversary of their birthday or even their death.[107] It is possible that these online platforms are ideal because they are instantly erected, serving mourners in their time of need, rather than waiting months or years to have that sense of closure. In the wake of the September 11th terror attacks in 2001, many people did not have a place to process loss, especially since Ground Zero remained a disaster zone for so long. As a result, people turned to online memorial pages to handle their grief in a communal way.[108]

Though mourning is essentially an individual experience, "people crave something

[104] Facebook Help Center. "About Memorialized Accounts." Facebook. Accessed May 23, 2019. https://www.facebook.com/help/1017717331640041/?helpref=hc_fnav.
[105] Buck, Stephanie. "How 1 Billion People Are Coping With Death and Facebook." Mashable. February 13, 2013. Accessed May 23, 2019. https://mashable.com/2013/02/13/facebook-after-death/.
[106] Ibid.
[107] Veale, Kylie. "Online Memorialisation: The Web As A Collective Memorial Landscape For Remembering The Dead." *The Fibreculture Journal*, no. 03. January 2004. Accessed May 23, 2019, 9.
[108] Ibid, 10.

communal; something that will link their minds to others."[109] Memorial webpages offer this as a space of public remembrance, accessible for the mourner at any time or location. It is argued by Kylie Veale, an academic studying the intersection of genealogy and the Internet, that the Web offers new opportunities to facilitate emotional and cultural expression; it thereby presents an ideal space for shared memorial experiences.[110]

As helpful as online memorials may be, they are not a substitute for physical memorialization. For the bereaved, a website may not seem real, as their loved one's remains have a tangible location to them. Graves and physical memorials are able to evoke memory and emotion through limited content or proximity. However, because online memorials are interactive, they require less prior knowledge from the living. All the options for media make up

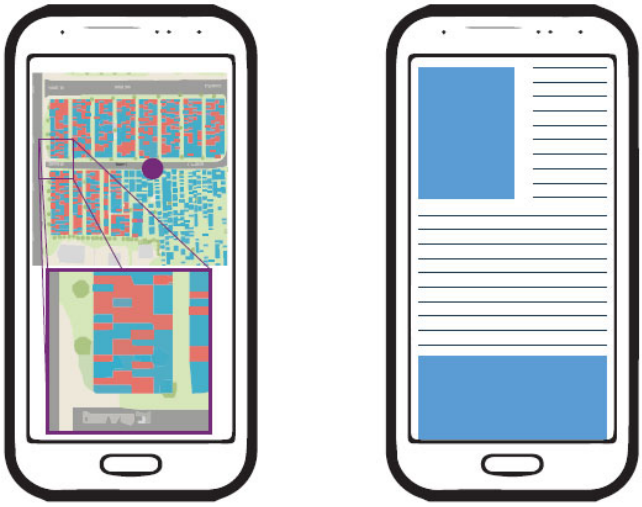

*Figure 67: The integration of cemetery GIS data maps and a memorial website into an interactive app can generate a more wholistic memorial experience for those grieving. (Source: Author)*

[109] Ibid, 4.
[110] Ibid, 4.

for this: photos, videos, and text, creating an emotional experience for mourners and any visitor as they are invited into a simulacra for the life of the individual.[111]

## *Chapter 8: Brownfield Reclamation*

Introduction

As this thesis explores the development of a natural burial cemetery, the quality of land used to inter the dead is crucial for the purposes of decomposition. Natural burial seeks to minimally impact the land and improve its condition rather than harm it. Selecting a brownfield site to remediate provides the greatest benefit before cemetery design even begins. Brownfields are defined by the EPA as "a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant."[112] The creation of an urban cemetery may be perceived negatively; however, cleansing a contaminated location will help to placate concerns of residents and community members.

The process of land remediation begins by understanding the site's current conditions; previous uses are the greatest contributing factor. A Phase I Environmental Site Assessment is comprised of initial studies of the site. One of these studies identifies potential contaminants that could negatively affect future users of the site or surrounding areas.[113] The cost of a site assessment ranges between $1,000 and $5,000. Though this price is negligible considering the total cost of development, the Environmental Protection Agency's (EPA) remediation grants are contingent on "All Appropriate Inquiries" into site conditions being investigated.

---

[111] Ibid, 11.
[112] "Overview of EPA's Brownfields Program." EPA. April 15, 2019. Accessed May 14, 2019. https://www.epa.gov/brownfields/overview-epas-brownfields-program.
[113] "Brownfield Remediation." Green Building Alliance. 2016. Accessed May 14, 2019. https://www.go-gba.org/resources/green-building-methods/brownfield-remediation/.

In EPA Region 3, which includes the state of Maryland, projects are eligible for a free brownfield site assessment, pending an application and acceptance process. These free assessments are typically awarded to public entities, but projects like this one, that promote community development, are also eligible. The strongest contenders are ones that portray "a strong commitment toward facilitating the redevelopment of the site after the Brownfields Site Assessment is completed. Redevelopment can involve the creation of commercial, industrial, recreational, or conservation uses."[114] The completion of this project would result in the existence of the commercial, recreational, and conservation categories on site. Specific redevelopment plans also help in the award of this funding. With this information in mind, a proposal for the redevelopment of Port Covington into a natural burial cemetery and recreation complex would create a compelling case for the award of an EPA site assessment.

Soil Remediation Techniques

Soil Remediation tends to fall in two categories: either the extraction of the problem or the introduction of new matter that will neutralize contaminants. The simplest extraction option is point-source contamination removal, which takes out objects such pipes and tanks from previous uses. A common option is to remove problematic soil completely, especially if excavation is already required. The soil can be treated off-site and return later, or even introduced on a landfill. Depending on the depth of contamination, this option may not be viable. Soil vapor extraction is used for pollution above the water table. Extraction wells are drilled and a vacuum is used to remove Volatile Organic Compounds (VOCs) as a vapor. Heating soil to

[114] "Targeted Brownfields Assessments in Region 3 - Eligibility." EPA. September 26, 2018. Accessed May 14, 2019. https://www.epa.gov/brownfields/targeted-brownfields-assessments-region-3-eligibility.

remove contaminants, thermal desorption, causes off-gassing that allows for collection and destruction of volatile compounds.[115]

The introduction of living things can also fight contamination in soil. Hydrocarbons can be degraded more quickly if microbes are integrated. Another strategy known as mycoremediation, introduces fungal species that can have a similar effect on other contaminants. A technique as simple as planting specific species of flora can produce a variety of soil-cleansing effects. Also known as phytoremediation, these plants create "chemicals that react with or immobilize contaminants,…degrade contaminants around their roots, or…draw up contaminants from the soil into shoots and leaves, which must then be disposed of."[116]

Groundwater remediation involves a longer process than soil and tends to be more difficult to measure. The most common method is called "pump and treat," which purifies water that is pumped out of the ground. Though it can be a simple process, it can become complicated as the number of contaminants increases.[117] Air sparging, used with the soil technique of vapor extraction, injects air below the water table, pushing vapors to the surface. A similar option adds water to underground wells, along with compressed air; together they flow upward, pulling vaporous pollutants as they circulate. Chemical oxidation adds an oxidant that breaks contaminants down through a reaction, becoming less harmful. This is can also be adapted for soil cleansing. A final strategy is to create a permeable reactive barrier. This barrier manifests itself in the form of a deep trench that filters groundwater as it flows through. Some of these trenches are filled with materials that react with contaminants, similar to the chemical oxidation process.[118]

---

[115] "Brownfield Remediation."
[116] Ibid.
[117] Ibid.
[118] Ibid.

Monitoring

To ensure that these strategies are effective, monitoring procedures must be put in place. Owners are often required to determine how well the chosen remediation processes are working. They are also responsible for assessing the leaching of contamination to surrounding properties due to on-site efforts. Consultants, hired by the site owner, tend to take on this responsibility by sampling groundwater, surface water, sewage and waster water, and air particulates.[119] Additional monitoring may be required during cleanup and construction to make sure that the procedures are going as intended and not affecting neighboring properties. These additional measures may include monitoring noise levels, effects on transportation, and the sampling of matter excavated during construction and sent to landfills.[120]

Brownfield Remediation at Port Covington

Focusing on the site of Port Covington, a 2003 report by Maryland's Department of the Environment shows that after multiple site investigations, including soil gas surveys, soil and groundwater sampling, and wildlife habitat assessment, there were several environmental concerns to be addressed.[121] In the soil, there were elevated levels of metals: arsenic, chromium, copper, lead, and mercury. In groundwater, bis(2-ethylhexyl) phthalate and diethyl phthalate were found in the shallow aquifer on site.[122] These chemical compounds have been linked with health complications and development impairments in humans.[123] As a part of current master planning efforts, a Comprehensive Soil Management Plan (CSMP) was prepared by Geo-

[119] Morley, David, James Schwab, and Laura Solitare. *Creating Community-Based Brownfield Redevelopment Strategies*. PDF. October 01, 2010.71. https://www.planning.org/publications/document/9148004/
[120] Ibid.
[121] Port Covington Parcel B Property. PDF. December 2003. https://mde.maryland.gov/programs/LAND/MarylandBrownfieldVCP/Documents/www.mde.state.md.us/assets/document/brownfields/Pt_Covington_B.pdf
[122] Ibid.
[123] "Phthalates and Their Alternatives: Health and ..." Accessed May 15, 2019. https://www.sustainableproduction.org/downloads/PhthalateAlternatives-January2011.pdf.

Technology Associates, Inc. Based on the Phase I and II assessments for the site, the firm created a plan for managing contaminants onsite. The plan details soil management, as well as health and safety protocols, material tracking, soil stockpiling, stormwater management, dewatering of contaminated groundwater, air monitoring, and regular progress reports. [124] Many of the scenarios outlined in the plan are contingent on further in-situ testing of soil and conditions that may arise during construction. Nevertheless, procedures for multiple, potential cases have been created.

## *Chapter 9: Encouraging Recreation at a Funeral Complex*

### Introduction

Encouraging the use of cemeteries for public space is not a new concept. In fact, cemeteries were humanity's first public open spaces, and coincidentally inspired the creation of the first parks. "From the fourteenth to eighteenth centuries, it seems that the least macabre place was the cemetery. Cemeteries were…public places, always full of bustling, animated crowds, where people seemed concerned with everything except death."[125] The cemetery was so engrained in the fabric of the city's daily function that it had permanently established shops, like bakeries. People went there to gain employment and entertainment. Fairs would be held there, with tumblers, showmen, mimes, musicians, and charlatans all vying for the public's attention. In mid eighteenth-century Paris, other urban spaces began to take over the social and civic functions provided by cemetery spaces. Cemeteries also became enclosed by walls at this point, isolating themselves as places exclusively for death. Furthering this isolation and shift in uses,

[124] Geo-Technology Associates, Inc. Comprehensive Soil Management Plan. PDF. April 18, 2016. https://mde.maryland.gov/programs/LAND/MarylandBrownfieldVCP/Documents/152029 - CSMP Final - 2016-04-18.pdf

[125] Michel Ragon and Alan Sheridan, *The Space of Death: A Study of Funerary Architecture, Decoration, and Urbanism* (Charlottesville: University Press of Virginia, 1983), 143.

edicts were released that forbid all previous uses: markets, fairs, play, dance, and assembly, and many more.[126] What once provided a broad range of public use, eventually only served one. With this shift, society lost its familiarity with death. By trying to instill in its members "an abstract notion of the sacred, the church was laying the ground, without intending to, for the great, present-day disaffection of both the sacred and the cult of the dead."[127] It is then the intention of this thesis to regain the familiarity with death that humanity lost centuries ago, only recently beginning its return.

Recreational Urban Placemaking

Though it is imperative to recognize that an urban recreational cemetery will need to overcome the stigma often associated with spaces of death, it must also provide amenities associated with public urban space. To address this, one must explore strategies that make public urban spaces successful for leisure-based uses. Streets should be designed as public spaces, not just paths for cars. When connecting the cemetery to the urban fabric, a successful street section will invite people onto the site. To give more value to the space, squares and parks should present themselves as destinations with multiple uses. "A great urban park is a safety valve for the city, where people living in high density can find breathing room. A bad park is a place of fear and danger."[128] What sets these places apart is creating a mix of uses that enriches the area for users.

The High Line, in New York City, is an example of a previous industrial structure that has successfully been repurposed for the needs of the 21st Century. Now about ten years old, the

[126] Ibid, 145.
[127] Ibid, 145.
[128] Project for Public Spaces, Inc. "Placemaking and the Future of Cities." November 12, 2012. Accessed May 22, 2019, 8. https://daks2k3a4ib2z.cloudfront.net/5810e16fbe876cec6bcbd86e/59f1fb530aad1d00010a6186_PPS-Placemaking-and-the-Future-of-Cities.pdf.

project has become one of the most popular tourist destinations in the city.[129] According to Washington Post writer, Adrian Higgins, one of the main reasons for the popularity of the High Line is the views it provides.[130] From thirty feet above street level, both the Hudson and East Rivers become visible. One is also able to look down onto the streets of the neighborhoods that it passes. The elevated promenade is not only frequented for its views out, but also its views within. Higgins describes it as a place "to see and be seen…not to walk but to strut."[131] Its remaining defining qualities are small spaces it provides for rest and a rich assortment of plants that contribute to the biodiversity of the site.

Impetus of Visitation

After exploring what attracts people to public urban spaces, the next step is to understand what attracts people to outdoor spaces in general, and what makes them stay for a few hours. In his book, *Design for Outdoor Recreation*, Simon Bell points out that a modest approach is best; more grandiose statements make recreation akin to office parks.[132] Resisting the urge to overdevelop will pave the way for greater success and decrease the potential of the site to become dated as it matures. Bell reiterates this by elevating the need to keep the landscape as the heart of the design, respecting the genus loci, a place's spirit.[133] Though this is important in any design project, architects at the building scale are sometimes tasked with creating a sense of

[129] Higgins, Adrian. "New York's High Line: Why the Floating Promenade Is so Popular." The Washington Post. November 30, 2014. Accessed May 23, 2019. https://www.washingtonpost.com/local/new-yorks-high-line-why-the-floating-promenade-is-so-popular/2014/11/30/6f3e30cc-5e20-11e4-8b9e-2ccdac31a031_story.html?utm_term=.968d79904f82.
[130] Ibid.
[131] Ibid.
[132] Bell, Simon. *Design for Outdoor Recreation*. London: E & FN Spon, 2001, 22.
[133] Ibid, 23.

place within a building, not identifying the existing one. The opportunity here is to use it as a source of inspiration for the design of facilities.

Designing the visit can also be what draws individuals to a site of recreation. They have an image in their head of what the place is before they get there, forming expectations based on this image.[134] Knowing what people expect from a visit to an outdoor setting, especially in terms of facilities and amenities, will help drive the design of the place. Adequately responding to these needs and expectations creates a compelling persuasion to visit again.

Interpretation

Interpretation is the act of revealing to visitors the meaning or significance of sites that they could not perceive alone. The professional act of Interpretation was enacted by the US National Park Service in the mid-20th century.[135] For successful interpretation, three criteria must be met: a specific site of significance must be experienced first-hand, visitors must be on a recreational visit, and the organization interpreting must be drawing attention to conservation efforts and an understanding of the place. According to the National Parks Service's interpretation curriculum, this act serves to connect for its audience the tangible: trees, places, rocks, and ecosystems, with the intangible: freedom, loss, death, health.[136] When these are properly connected, the resources gain relevance to the visitor.

On the site of a recreational cemetery complex, what to interpret becomes the operative question. Like other cemeteries, as it ages it could offer tours of graves, telling thought-

[134] Ibid, 23.
[135] Ibid, 192.
[136] Bacher, Kevin, Alyssa Baltrus, Katie Bliss, Dominic Cardea, Linda Chandler, Dave Dahlen, Jana Friesen, Richard Kohen, and Becky Lacome. *Foundations of Interpretation Curriculum Content Narrative*. PDF. National Parks Service, March 01, 2007.
https://www.nps.gov/idp/interp/101/FoundationsCurriculum.pdf

provoking stories of those interred. Also, because a goal of this thesis is to generate interest in natural burial, educating visitors about it would add another facet to exploring the cemetery. In the more recreational side of programming, revealing the history of the site and the process of brownfield remediation could provide a stimulating experience.

Finalizing effective interpretation involves knowing the objective behind the interpretation and through what medium it will be offered. Knowing the end goal can help determine the process to reach it. This could involve methods of storytelling or varying technologies to get messages across.

## *Chapter 10: Design Proposal*

### Site Circulation

To facilitate effective movement on site, different directionality was assigned to the major site uses. Large walking paths running parallel to the river and street allow for efficiency and wayfinding for mourners moving from the ceremony hall, to the landscape, and back for repast. These are wide enough to accommodate the funeral party, so that family members may walk alongside each other for comfort.

Perpendicular to the streets and river are the paths that encourage movement of users to and from the waterfront recreation areas. This orientation helps to create fewer chance encounters with on-going funerals. The general public passing through space for the dead regularly, allows them to note the significance of the area, revering those who have passed. This space allows for the opportunity to create a different relationship with the dead and potentially a different dynamic coming to terms with one's own mortality.

In addition to the funeral and recreation-specific paths, there are two that place the connect the site to a greater network. The through-site connector cuts diagonally through the site, creating the most efficient movement from the I-95 overpass to the Hannover Street Bridge. There is also a waterfront trail that connects with the greater cemetery ring that surrounds this part of the Middle Branch of the Patapsco River. The walk around this loop is about 3 miles or an hour long walk.

Landscape Planning

To divide the landscape, about 15 acres toward the street edge is dedicated to the use of burial, 15 acres at the waterfront are devoted to recreational uses and about 5 acres are specified for the building and the immediate landscape context on site.

Beyond the allocation of space, the landscape needs to be populated with flora that supports each of its uses. Understanding the need for a variety of burial options, different canopy trees, understory trees, and groundcover are used to create different experiences throughout.

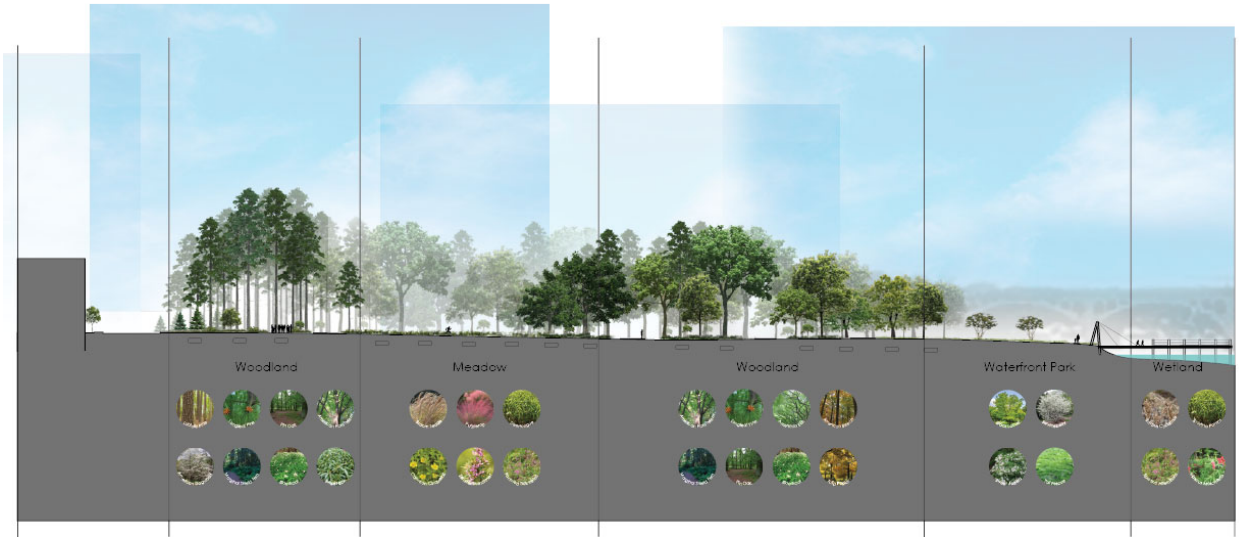


*Figure 68: Landscape Typology Site Section (Source: Author)*

The landscape typology closest to the city is a pine woodland. The goal of this area is to create a space with columns of trees that remains may be placed in. This area consists of canopy trees: Loblolly Pine and Longleaf Pine; understory trees: Pin Oak, American Hornbeam, and American Dogwood; and groundcover plants: Marginal Shield Fern, Bloodroot, and Sweet Box. The next landscape typology is the meadow. This tract of land offers visibility for visitors, breaks up the forest, and allows for a unique burial space among lower plants. Here, the plants consist of Broom Sedge, Purpletop, Deertongue, Common Cinquefoil, Slender Bushclover, and Panicled Tick-trefoil. Next is the second woodland typology, making use of deciduous trees as a canopy. This typology is meant to stop growing at a lower height than the pine forest. Though deciduous trees have roots that can make burial more difficult, natural burial cemeteries have occurred in deciduous forests since their inception. This area consists of canopy trees: American Hornbeam and American Elm; understory trees: American Beech, Tulip Poplar, and Pin Oak; and groundcover: Marginal Shield Fern and Bloodroot. After the deciduous woodlands is the waterfront park. This area is marked by Black Locust trees, Serviceberry, and Sweet Azalea at a

low density. The groundcover for this space is Tall Fescue. The plan for the waterfront park is that it would offer informal recreation space, and areas for some shade. The final landscape typology on site is the wetlands at the water's edge. Here, plantings consist of Scirpus Cyperinus, Spartina Patens, Spartina Alterniflora, and Hibiscus Moscheuto.

*Figure 69: Waterfront Park (Source: Author)*


*Figure 70: Person visiting loved one in the East Meadow using the memorial app to locate and connect with loved one's grave. (Source: Author)*

Building Scale

The building form divides major parts of the program into separate buildings united under a greater canopy roof. The different buildings allow for each funeral ceremony to be self-contained. When a mourner enters their respective hall, the entire space inside is for them and the other mourners of their loved one. This allows for fewer chance encounters with people attending other funerals that may be happening at similar times. The canopy roof over all the buildings unites them while also regularizing their varied heights. Throughout the complex, both interior and exterior, thick poche walls are carved away to provide storage and utility space.

## Divide
Separate building into sacred and profane program.

## Extend
Give prominance to the sacred.

## Define
Specify program elements in further detail.

## Separate
Create space between major program elements so they stand as different volumes.

## Rotate
Swing profane wing out to define space between.

## Align
Adjust profane masses to follow the curve of the site.

## Unite
Apply canopy roof to join the masses from above.

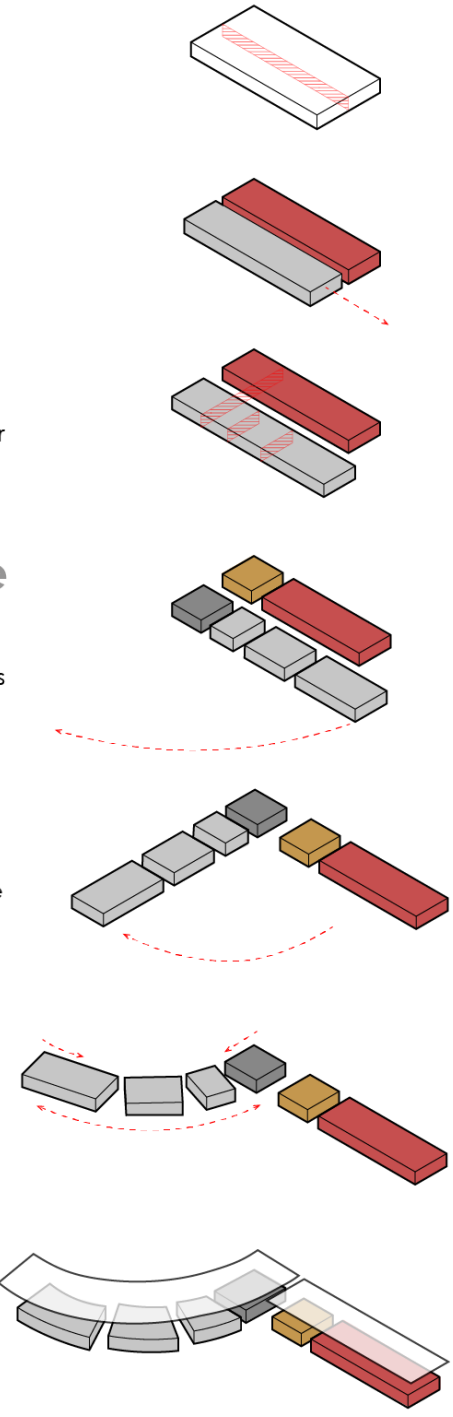

*Figure 71: Building Morphology (Source: Author)*

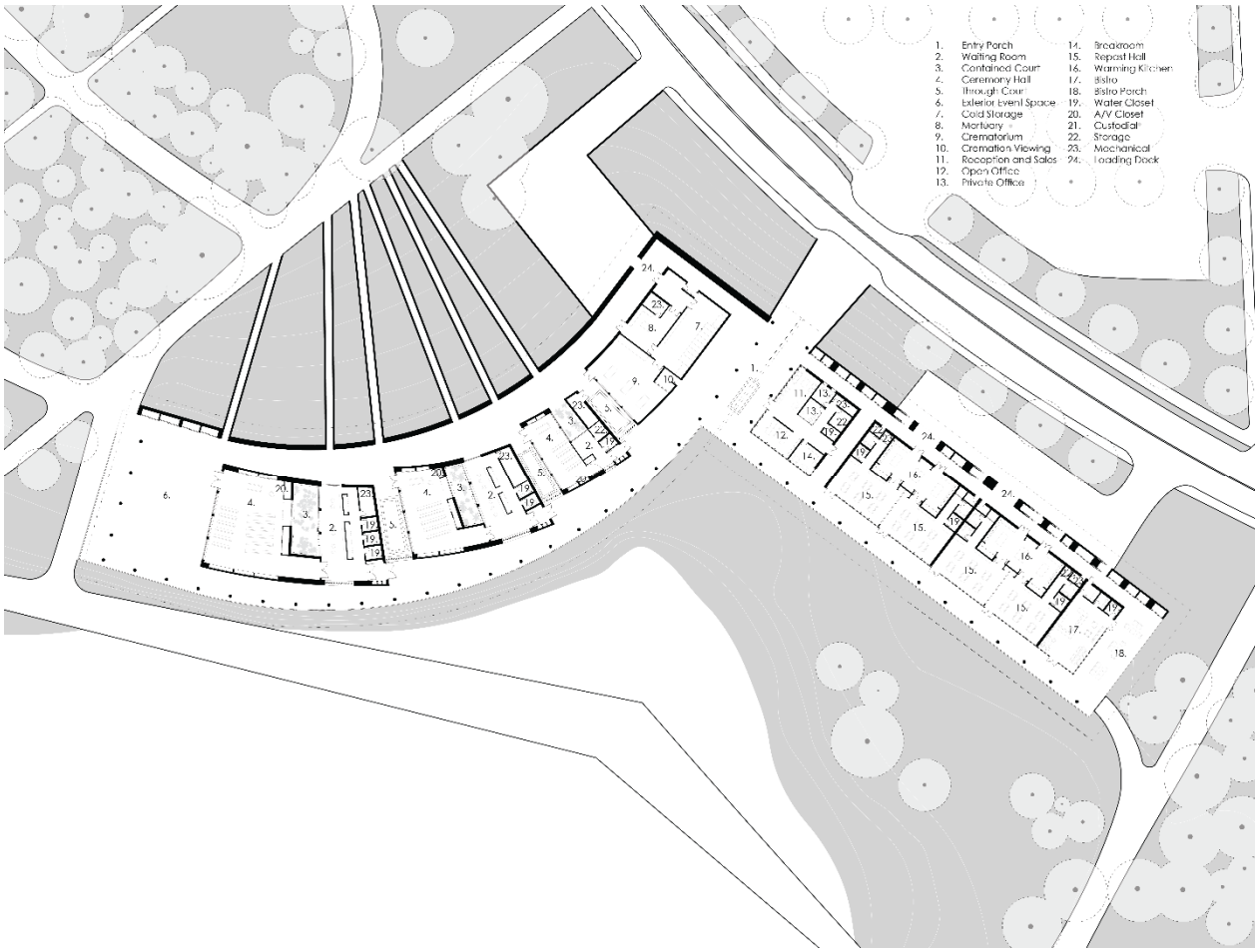


*Figure 72: Ground Floor and Context (Source: Author)*

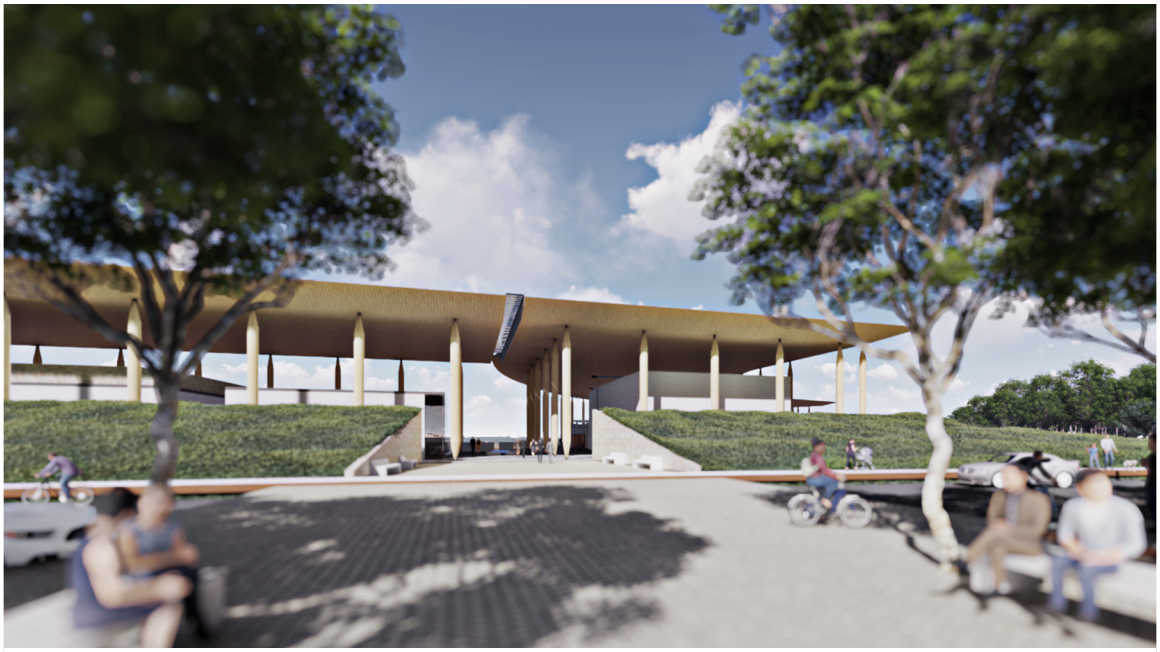

*Figure 73: View of entrance from parking lot. (Source: Author)*

Entering from the city, two landform walls gradually rise twelve feet on either side, giving the impression that one is moving below ground, leaving everyday life for a period. Moving into the Entry Portico one becomes covered by the canopy roof, gaining a sense of being contained, but not restricted. The landform walls give way to the buildings that continue the threshold of the complex. To one's right is the mortuary, it's heavy concrete materiality stands in contrast to the glazed office building on the right. Looking forward, a reflecting pool of water reinforces the entry axis, was well as the strip of skylight in the roof.

*Figure 74: Entry portico with ceremony halls coming into view. (Source: Author)*

As one gets closer to the pool of water, doors to the ceremonial halls come into view. The circulation space is generous here, as well as in the Entry Portico. It provides the opportunity for informal meeting with others before entering the ceremonial hall. The rotation of the ceremonial halls from the curve of the floor also reinforces these spaces.

Along the circulation, space between buildings is screened with vertical, wood slats. This space allows for views from the waterfront to landscape on the other side of the building. A reflecting pool in each of these areas reinforces the axis. The orientation of the slats provides privacy to those in the building.

*Figure 75: Views apparent from waterfront to landscape. (Source: Author)*

A change in floor material marks the transition into the building. Just beyond the entry of each ceremonial hall building is the receiving area. This is a more formal space for those attending the funeral to greet each other. The receiving area is oriented to look at an adjacent planted courtyard. A mesh, patinated, copper screen filters light coming in. The materiality of the screen stands in direct contrast to the polished copper finishes on the interior of the building. The same may be say of the patinated roof. This contrast is meant to reflect the passage of time, comparing this property of copper to the passage of time in life.

*Figure 76: Receiving room with views to the landscape and courtyard. (Source: Author)*

From the receiving area, the group makes their way to the ceremonial hall. Each ceremonial hall is characterized by precast concrete walls that lead up to a clerestory. The roof of the hall is held up by four columns that are embedded in the walls. On either side of the room, natural light is brought in from the adjacent courts. The western wall of each ceremonial hall pivots open from above. This move opens the ceremonial halls to the outdoors, enhancing the quality of the space. The catafalque supporting the casket also hosts the cart that will bring the remains from the ceremony hall to the grave.

*After the ceremony or celebration of life the funeral moves to the landscape, taking the most efficient path to the grave site. Final respects are paid before the body is lowered and funeral goers begin filling in the grave. This process can be cathartic for the those participating, where the grave filling process promotes closure.*

*Figure 77: Interior of the ceremonial hall. The wall to the left pivots open to expand the hall to the exterior. (Source: Author)*

*Figure 78: A family says final goodbyes to their loved one before filling their grave in the pine woodland. (Source: Author)*

*Figure 79: The paths on site take on a different character depending on their proximity to the water. (Source: Author)*

*Figure 80: A funeral procession walks across the water heading to the repast hall. (Source: Author)*

From the grave, the funeral party walks back to the main complex, to share one final meal celebrating the life of their loved one in the repast hall. After this, some attendees will head home, while others will spend the rest of their day at the park.

*Figure 81: The family enjoys a catered meal catching up and celebrating the life of their loved one. (Source: Author)*

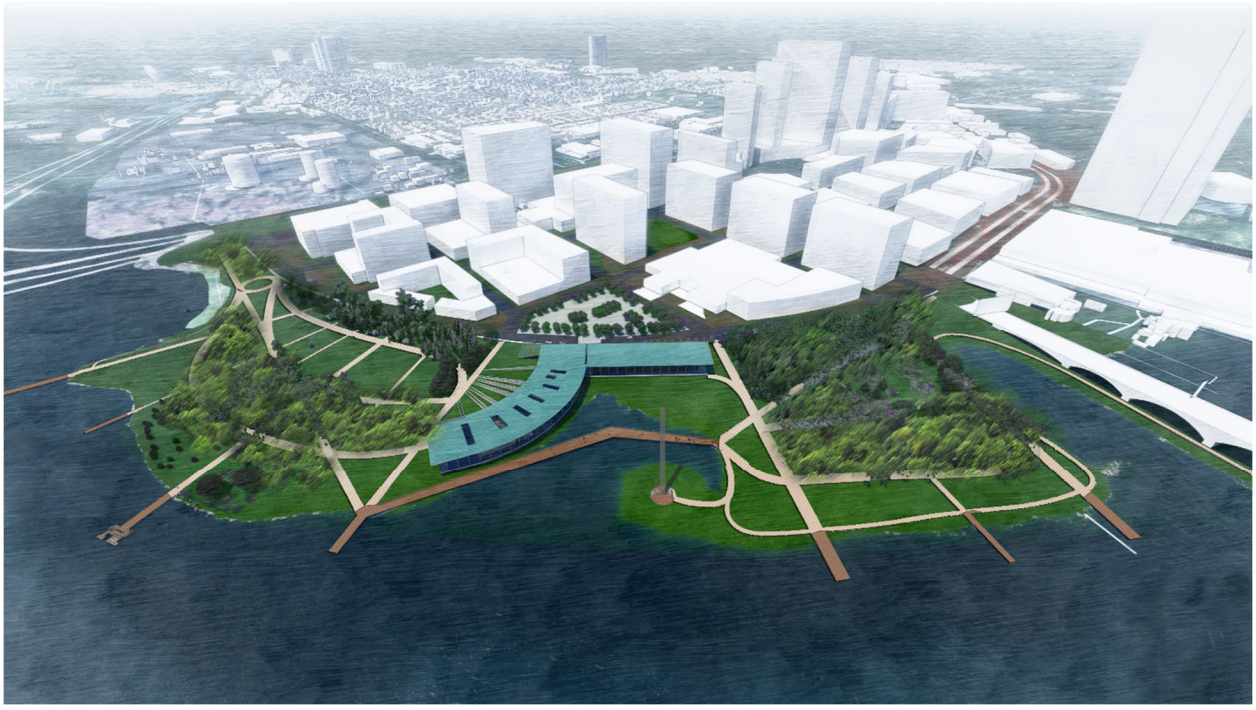

*Figure 82: The cemetery complex as a whole. (Source: Author)*

## Conclusion

Ultimately, this thesis presents itself as an exploration that seeks to combat the harmful practices of the funeral industry, while creating an enironment that promotes a healthy relationship with death. These problems became clear through research and the design process asked how these problems could be solved with the application of architectural design principles. What remains important after this process, regardless of the final product in this investigation, is that by breaking down the stigmas associated with death, designers can be more open to giving the design of death spaces in the United States the same standard of care that is put into the rest of the built environment.

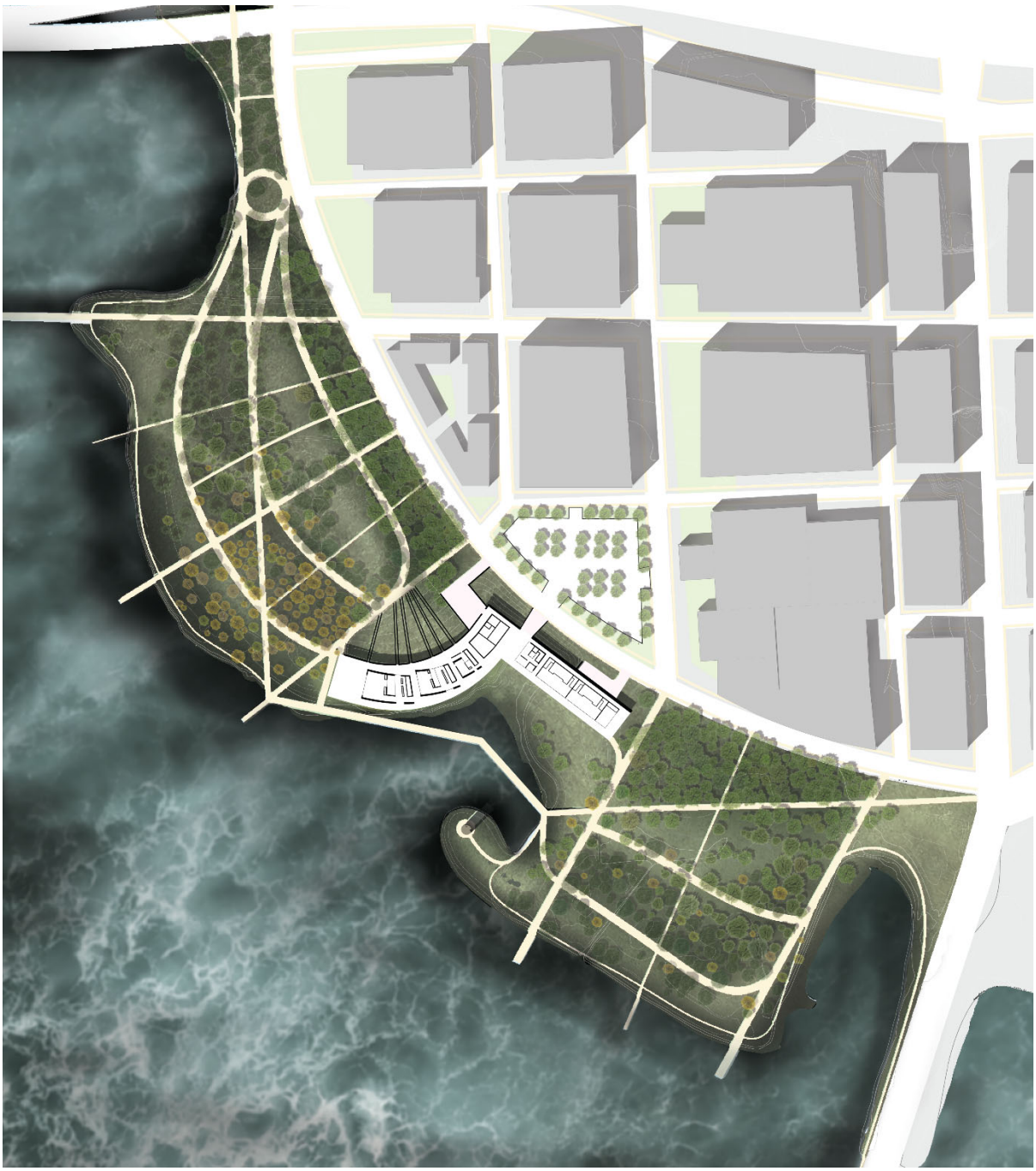

*Figure 83: Site plan. (Source: Author)*

# *Bibliography*

"2017 Green-Wood Annual Report." Green-Wood. 2017. Accessed May 24, 2019. https://report.green-wood.com/2017/.

"About / History." Green-Wood. Accessed May 24, 2019. https://www.green-wood.com/about-history/.

"The New Crematorium, The Woodland Cemetery / Johan Celsing Arkitektkontor." ArchDaily. September 22, 2014. Accessed May 24, 2019. https://www.archdaily.com/547748/the-new-crematorium-the-woodland-cemetery-johan-celsing-arkitektkontor.

"The Woodland Crematorium." Stockholmstad. Accessed May 24, 2019. https://skogskyrkogarden.stockholm.se/in-english/architecture/buildings/woodland-crematorium/.

"Upcoming Events." Green-Wood. Accessed May 24, 2019. https://www.green-wood.com/calendar/.

"Urban Planning and the Importance of Green Space in Cities…," Healthy Parks Healthy People Bacher, Kevin, Alyssa Baltrus, Katie Bliss, Dominic Cardea, Linda Chandler, Dave Dahlen, Jana Bell, Simon. Design for Outdoor Recreation. London: E & FN Spon, 2001.

"Brownfield Remediation." Green Building Alliance. 2016. Accessed May 14, 2019. https://www.go-gba.org/resources/green-building-methods/brownfield-remediation/.

Buck, Stephanie. "How 1 Billion People Are Coping With Death and Facebook." Mashable. February 13, 2013. Accessed May 23, 2019. https://mashable.com/2013/02/13/facebook-after-death/.

"Bushey Cemetery." Waugh Thistleton Architects. Accessed May 24, 2019. http://waughthistleton.com/bushey-cemetery/.

Central, accessed March 29, 2019, http://www.hphpcentral.com/article/urban-planning-and-the-importance-of-green-space-in-cities-to-human-and-environmental-health.

"Chapel of Resurrection." Stockholmstad. June 02, 2015. Accessed May 24, 2019. https://skogskyrkogarden.stockholm.se/in-english/architecture/buildings/chapel-of-resurrection/.

"Coco Synopsis." IMDb. Accessed May 17, 2019. https://www.imdb.com/title/tt2380307/plotsummary.

"Crematorium Siesegem." KAAN Architecten. Accessed May 24, 2019. http://kaanarchitecten.com/project/crematorium-siesegem/.

Facebook Help Center. "About Memorialized Accounts." Facebook. Accessed May 23, 2019. https://www.facebook.com/help/1017717331640041/?helpref=hc_fnav.

Federal Trade Commission. “The FTC Funeral Rule.” Consumer Information. https://www.consumer.ftc.gov/articles/0300-ftc-funeral-rule (accessed March 28, 2019).

"Film and Video." Green-Wood. Accessed May 24, 2019. https://www.green-wood.com/2010/film-and-video/#locations.

Field, David, Jennifer Lorna Hockey, and Neil Small. Death, Gender and Ethnicity. London: Routledge, 1997.114.

Frearson, Amy. "Crematorium in Kėdainiai by Architektu Biuras G.Natkevicius Ir Partneriai." Dezeen. March 21, 2012. Accessed May 24, 2019. https://www.dezeen.com/2012/03/21/crematorium-in-kedainiai-by-architektu-biuras/.

Fred Kent, "Creating Great Urban Parks," Project for Public Spaces, December 31, 2008, accessed March 29, 2019, https://www.pps.org/article/creating-great-urban-parks.

Friesen, Richard Kohen, and Becky Lacome. Foundations of Interpretation Curriculum Content Narrative. PDF. National Parks Service, March 01, 2007. https://www.nps.gov/idp/interp/101/FoundationsCurriculum.pdf

Geo-Technology Associates, Inc. Comprehensive Soil Management Plan. PDF. April 18, 2016. https://mde.maryland.gov/programs/LAND/MarylandBrownfieldVCP/Documents/152029 - CSMP Final - 2016-04-18.pdf

"Green Burial Defined," GREEN BURIAL COUNCIL, accessed March 20, 2019, https://www.greenburialcouncil.org/green_burial_defined.html.

"Green Burial Defined," GREEN BURIAL COUNCIL, accessed March 20, 2019, https://www.greenburialcouncil.org/green_burial_defined.html.

Higgins, Adrian. "New York's High Line: Why the Floating Promenade Is so Popular." The Washington Post. November 30, 2014. Accessed May 23, 2019.

"History and Facts," Final Footprint, accessed March 20, 2019, https://finalfootprint.com/history-facts/.

Joe Sehee, "Burials and Cemeteries Go Green," interview by Cheryl Corley, All Things Considered, transcript, National Public Radio, December 16, 2017.

"Land Restoration Program Fact Sheets." Maryland Department of the Environment. Accessed May 23, 2019. https://mde.maryland.gov/programs/LAND/MarylandBrownfieldVCP/Pages/errp_factsheets.aspx#top.

Levy, Natasha. "Kaan Architecten's Belgian Crematorium Rejects "Pompous Monumentalism"." Dezeen. November 22, 2018. Accessed May 24, 2019. https://www.dezeen.com/2018/11/22/kaan-architectens-belgium-crematorium-siesegem/.

MacFarlane, Key. “Time, Waste, and the City: The Rise of the Environmental Industry.” Antipode 51, no. 1 (2019): 225–247.

McQuaid, Matilda. "Woodland Chapel, Woodland Cemetery, Stockholm, Sweden, Side Elevation. C. 1918-20." The Museum of Modern Art. Accessed May 24, 2019. https://www.moma.org/collection/works/318.

MDHSLIBRARYDEPT. "Port Covington: Baltimore's Junction with the World." Underbelly. June 30, 2016. Accessed May 23, 2019. http://www.mdhs.org/underbelly/2016/06/30/port-covington-baltimores-junction-with-the-world/.

"Memorial Ecosystems-Bios," Memorial Ecosystems - Leaders in Conservation Burial, accessed March 28, 2019, http://www.memorialecosystems.com/AboutUs/Bios/tabid/109/Default.aspx.

Michael Marquard, "The Real Impact of Wayfinding," The LA Group, September 30, 2016, accessed March 29, 2019, https://www.thelagroup.com/real-impact-wayfinding/.

Michel Ragon and Alan Sheridan, The Space of Death: A Study of Funerary Architecture, Decoration, and Urbanism (Charlottesville: University Press of Virginia, 1983).

Mitchell, Margaret. Remember Me: Constructing Immortality: Beliefs on Immortality, Life, and Death. New York: Routledge, 2007.

Morley, David, James Schwab, and Laura Solitare. Creating Community-Based Brownfield Redevelopment Strategies. PDF. October 01, 2010.71. https://www.planning.org/publications/document/9148004/

Oliver Morgan, "Infectious Disease Risks from Dead Bodies Following Natural Disasters," Revista Panamericana De Salud Pública 15, no. 5 (May 2004): accessed March 29, 2019, doi:10.1590/s1020-49892004000500004.

"Overview of EPA's Brownfields Program." EPA. April 15, 2019. Accessed May 14, 2019. https://www.epa.gov/brownfields/overview-epas-brownfields-program.

"Phthalates and Their Alternatives: Health and ..." Accessed May 15, 2019. https://www.sustainableproduction.org/downloads/PhthalateAlternatives-January2011.pdf.

Port Covington Parcel B Property. PDF. December 2003. https://mde.maryland.gov/programs/LAND/MarylandBrownfieldVCP/Documents/www.mde.state.md.us/assets/document/brownfields/Pt_Covington_B.pdf

"President of National Congressional Cemetery." Interview by author. April 19, 2019.

Project for Public Spaces, Inc. "Placemaking and the Future of Cities." November 12, 2012. Accessed May 22, 2019. https://daks2k3a4ib2z.cloudfront.net/5810e16fbe876cec6bcbd86e/59f1fb530aad1d00010a6186_PPS-Placemaking-and-the-Future-of-Cities.pdf.

"Site Rental." Green-Wood. Accessed May 24, 2019. https://www.green-wood.com/2012/site-rental/.

Sidaway, James D., and Avril Maddrell. Deathscapes Spaces for Death, Dying, Mourning and Remembrance. Farnham: Taylor and Francis, 2016., 151

"Skogskyrkogården." UNESCO World Heritage Centre. Accessed May 24, 2019. https://whc.unesco.org/en/list/558.

"Targeted Brownfields Assessments in Region 3 - Eligibility." EPA. September 26, 2018. Accessed May 14, 2019. https://www.epa.gov/brownfields/targeted-brownfields-assessments-region-3-eligibility.

Tyiska, Cheryl. "Mt. Olivet Cemetery." Interview by author. March 12, 2019.

Valerie Capels and Wayne Senville, "Planning for Cemeteries," Planning Commissioners Journal, no. 64 (October 15, 2006): accessed March 26, 2019, http://plannersweb.com/2006/10/planning-for-cemeteries/.

Veale, Kylie. "Online Memorialisation: The Web As A Collective Memorial Landscape For Remembering The Dead." The Fibreculture Journal, no. 03. January 2004. Accessed May 23, 2019.

Walker, Alicia. "Coco: How Pixar Uses Mexican Culture to Talk to Kids about Death." Anthropological Perspectives on Death. March 09, 2018. Accessed May 17, 2019. https://scholarblogs.emory.edu/gravematters/2018/03/09/coco-how-pixar-uses-mexican-culture-to-talk-to-kids-about-death/.

Webster, Lee et al., On the Way to the Green Burial Cemetery: A Guide for Families. PDF. (Green Building Council, 2015).

Webster, Lee et al., Opening, Closing, and Maintenance of a Green Burial Grave. PDF. (Green Building Council, 2015).

Webster, Lee et al., The Science Behind Green and Conventional Burial. PDF. (Green Building Council, 2016).

"Why Congressional." Congressional Cemetery. Accessed May 24, 2019. https://www.congressionalcemetery.org/why-congressional.asp.

Wilkinson, Tom. "Typology: Crematorium." Architectural Review. November 14, 2016. Accessed May 24, 2019. https://www.architectural-review.com/essays/typology/typology-crematorium/10014547.article.

Yuqing Pan, "The Neighborhood Features That Drag Down Your Home Value—Ranked," Realtor.com, March 28, 2016, accessed March 21, 2019, https://www.realtor.com/news/trends/things-that-affect-your-property-value/.